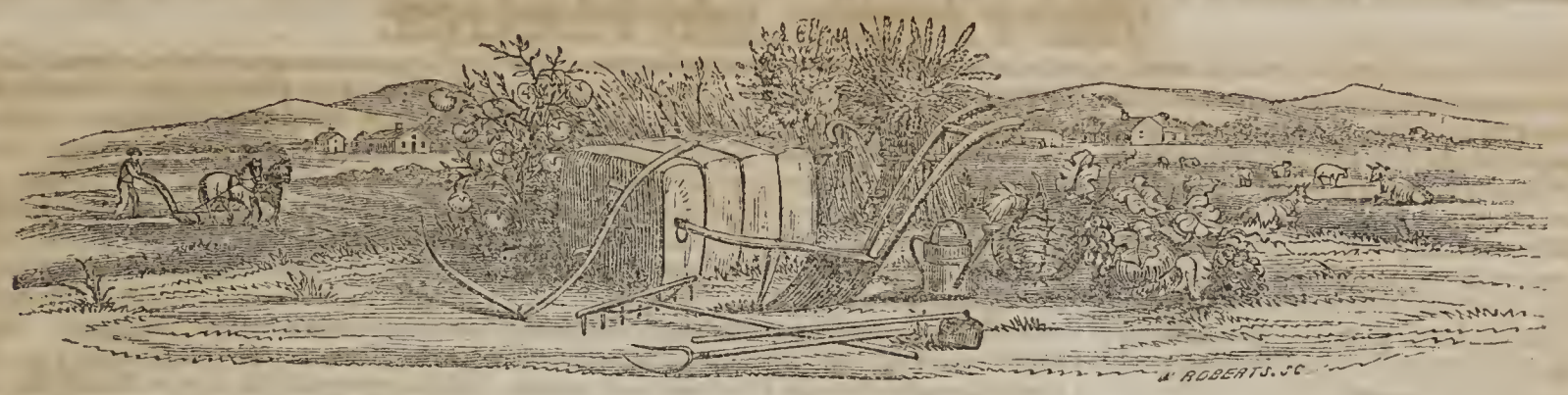

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FROM THE ALBANY CULTIVATOR.

Letter from Prof. Norton.

ANALYTICAL LABORATORY, YALE COLLEGE.
New-Haven, Conn., Dec. 1, 1849.

EDITORS CULTIVATOR—It is with much pleasure, that I once more commence a series of regular contributions to your columns. My Letters from Europe, continued through nearly three years, with one intermission of three or four months, gave me a species of introduction to your numerous readers, which has since, in many cases, proved not only agreeable, but useful.

In attempting to renew, and as I hope, extend my acquaintance, I have no longer to depend upon the novelty and variety of another continent for the interest of my communications, and must confine my descriptions for the most part, to regions which to us seem more prosaic, in our own land. Yet, after all, this lack of strange people and strange customs in my present letters will be excused, if my endeavors to illustrate plainly and intelligibly some points of improved scientific agriculture, are successful. This will still, to many of your readers, be travelling in a new country, and writing of things they have never seen.

The first great work of every person who elevates himself to any of the scientific departments of agriculture, when wishing to make an impression upon practical men, should be to convince them that he regards practice in its proper light; that the results of intelligent experience are always considered by him worthy of attention. Let me then say at once, that I look upon science as an auxiliary to practice. We all know that good corn and wheat may be grown, and has been grown, by men who scorn the name of science; that large cattle may be fatted, that good plowing may be done by them. We know that the world has been fed even to this day, by the skill of farmers, who would be called by some scientific enthusiasts, men ignorant of the first principles. So they were of first scientific principles; they could not mention in scientific language, the proper angle at which the axe should enter the tree, but they could show it sunk to the helve; they could not name the substances that make up the straw and grain of wheat, but could point to fields yellow for the harvest; they could furnish food for themselves and families, where Liebig and Johnston together, with all their science, would find it difficult, unassisted, to sustain even their own lives.

Thus much I acknowledge, practice can do without science, but science cannot do without practice. The question now comes up, would not both be benefited by union? I have said that practice *can* do without science but would it not *do better* with its assistance? The practical man can raise good crops and good animals, can keep his farm supplied with good implements, but could he not work to better advantage and with more certainty, if he knew more as to the nature of his animals, the composition of his crops and soils? Can any reasonable man deny that knowledge upon these points, would be an immense advantage to him in every department of his farming operations? The most prejudiced opponent of innovation, will, I think, scarcely attempt to controvert this general proposition. Once admitted, they cannot consistently refuse attention to an explanation of particular points, to proofs that a majority of practical men are ignorant of much they ought to know, even with regard to common details of their profession. After what has already been written, this remark will not be misunderstood; it will be seen that I do not intend to decry practice, but to say that it is far from perfect, and may be decidedly improved by the addition of a little scientific knowledge.

It may be objected that this knowledge is unintelligible to the ordinary farmer; that it only confuses, and thus leads him into numberless errors; but I think that the main feature in the applications of science, may be made simple and plain to all; this has been proved in the works of Prof. Johnston, where a vast amount of knowledge, gained by the researches of scientific men, is presented in a perfectly simple and practical form.

The great difficulty is, that most writers on such subjects introduce many hard words, and rather obscure theoretical views; these, together with a want of direct practical application, discourage the plain farmer at the outset; he says—"I can make my living as my fathers have done, without worrying my brains over this book learning, which after all, may be perfect nonsense." My object has been and always will be, to explain everything, so that the farmer can think for himself, and can see whether any new views presented really have a practical bearing or not. The next great difficulty, after simplicity of language has been attained, lies in the fact that in a single letter, it is impossible to embrace all of any particular subject or department. There are some points almost always left unexplained, or some details omitted, which are necessary to the uninstructed reader. for this reason, I have decided to take up a particular subject, and continue it through several letters, or as many as may seem needful. Among those that have occurred to me, one of the most important, as well as the most interesting to the farmer, is that of manures. Some readers may think this a misapplication of the word interesting, but such cannot be *true* farmers, for to all belonging to this class the word manure is one full of attraction.

I remember a somewhat celebrated Scotch farmer, who, from experience of their effects, had come to like the odors of the most powerful manures. I once saw a bottle opened under his nose, whose contents had the vilest smell that I ever perceived, and my laboratory occupations

have given me a somewhat extensive experience in that line. His countenance at once expanded in satisfaction, and delight "that'll be grand stuff," said he at last and immediately inquired where it could be obtained I would not insist that your readers should prefer such smells to fresh air, but would like to make them equally keen in their search for fertilizing substances. John P. Norton.

Letter from Henry S. Randall, Esq. to Col. R. F. W. Alston.

Profits of Sheep Husbandry in the Southern States—By Giving to Agriculture a Mixed and Convertible Character—By Furnishing the Raw Material for the Manufacture of Domestic Woollens.

Dear Sir:—The third great benefit claimed by me among the profits of sheep husbandry in the Southern States was, "its comparative efficacy in giving Southern Agriculture a mixed and convertible character, and thereby sustaining (or improving) all the present good tillage lands, in the place of continuing the "new and old field" system (tilling land until it is worn out then abandoning it and opening new lands), once so general, and even now by far too prevalent."

The first object of mixed husbandry has been already stated—the home supply of the various necessaries of life. Its second, and still more important one, is the preservation of existing fertility in all soils fit for tillage. It certainly requires no proof or argument to demonstrate the superior xpediency of maintaining the fertility of the soils, if it can be done. by a rotation of crops, even though each of these crops is not separately considered, the one which would yield the greatest immediate profit. In the language of the hackneyed aphorism, it is never expedient to "kill the goose which lays golden eggs."

This constant cropping with one plant was once extensively practised on the wheat lands of New York, as many of their present owners can bitterly attest. Even now there can be no doubt that, on nearly all of them, wheat returns too often in the rotation. These lands were once rapidly, and are still I fear, slowly declining in value; while the grazing lands of Southern New York, where men have been *compelled* to be more discreet, have been constantly improving and approximating to the former in market value.

The same system has prevailed on the rice, tobacco, and cotton lands of the South, and has, for a variety of reasons not necessary here to be discussed, been in the case of the latter at least, more fatally persisted in. I have already alluded to the exhaustion of your soils consequent on this course of culture, but to show the wide extent of the evil—its pecuniary consequences individually, and on whole States—the new admitted necessity of a rotation of crops—the equally conceded necessity of the introduction of some *new staple*, or staples, to render the other crops in the rotation, besides cotton, rice, and tobacco, *remuneratire*—and various other considerations having a strong bearing on this whole question—I quote the following from *Southern*, as well as highly authoritative sources.

The Committee on Agriculture of the House of Representatives of South Carolina, through their Chairman, Hon. R. W. Roper, made a Report to that body, Dec. 14, 1842, from which the following are extracts:

"Let us now turn our consideration to one other great staple, cotton, of which the statistics are so exact that we can ascertain by calculation what our prospects are as regards competition in that article.—The United States produce at present 578,012,473 lbs.—more than one half the crop of the whole world. South Carolina grows of this 43,927,171 lbs., or 1-13 part of the quantity; but from this source of profit her palmy days are past. Every year opens new lands in the West, where congeniality of soil and climate to this commodity increases the product per acre far beyond what can be reared at home, and consequently reduces the value infinitely below the costly prices which formerly enriched Carolina. These new lands produce on an average, 2,500 lbs. of cotton per hand, while the lands in Carolina yield but 1,200 lbs., and the expenses of a laborer being about equal in either place, reduces the Carolina cotton to about half its intrinsic value. We have also the declaration of Mr. Dixon H. Lewis, in a recent speech in Congress, that cotton, divested of Government embarrassments, might be grown in Alabama for three cents a pound.

"Your Committee will avail itself of the lucid calculations of a distinguished and talented individual,* to present another view of the subject, startling in its details, and bearing strongly on the propriety of summing up all our resources. The crop of the world amounts to 1,000,000,000 lbs., which would require, at the rate of 250 lbs., per acre, 4,000,000 of acres to grow this quantity. Now, the four States bordering on the coast of the Gulf of Mexico—viz: Louisiana, Mississippi, Alabama and Florida—contain 130,000,000 of acres; proving that, if only one acre in 32 were found capable of producing 250 lbs. to the acre, those four States could, alone, supply the demand of all the markets in the world.—In this calculation, the produce of Georgia, South Carolina, North Carolina and Virginia, with portions of other States, besides 150,000,000 acres in Texas, are entirely excluded. The lands of the Gulf States, therefore, and Texas, are sufficient to supply the demands of the world in all time to come. Where, then, is the hope or prospect of South Carolina in the competition?

"South Carolina comprises within her borders 16,000,000 acres of land, of which only 1,300,000 are cultivated. Of this, cotton occupies 175,700 acres; rice, 80,000; Indian corn, 500,000; potatoes, 22,612; wheat, 24,079—making an aggregate of about 800,000 acres; the balance of 500,000 are taken up in oats, rye, barley, hay, tobacco, and a limited portion of other articles necessary to the supplies of life. To what use, then, is the balance of our territory, of 14,000,000 of acres, to be appropriated? Are we forever to be supplied with stock from the West, breadstuffs from the Middle States, and manufactures from the North? Is all that we can realize from our labor to be expended abroad? Nothing to be left for our own improvements or our luxury? As one means of correcting this evil, your Committee propose an Agricultural Survey of the State, to determine our natural advantages, develop our facilities of improvement, exhibit our profits and expenditures, and awaken our citizens to the importance of *vying with the rest of the human family in all the improvements of which our location is susceptible.*

"The exposition which your committee has given, showing the great competition of foreign rice with our own, and that South Carolina cannot compete with the West in the cheap production of cotton, and that she must ere long, be driven from the market, demonstrates the necessity of looking abroad and around us *for other sources of advancement than those we possess.*

"We cannot expect that *accident* is continually to supply new staples suited to our soil and climate, and place us beyond the reach of contingent circumstances.—We must resort to science to improve our Agriculture, and to machinery to enlarge and prepare present articles of culture, *or transplant and acclimate new products*, which will again like those we have lost and will lose lead off for a period in the employment of capital, amassing of wealth and diffusion of human happiness."

The House and Senate agreed with the Report, the same day, and its principal recommendation, an Agricultural Survey of the State was adopted.

The Committee appointed by the South Carolina State Agricultural Society to consider the scheme of Col. Davie to reduce the quantity of cotton grown, made a Report through their Chairman, Judge Seabrook, at the winter meeting of the Society, 1845—6, from which the following are extracts:*

"Another cause of our distress is that, in a large portion of the Southern country, cotton is cultivated, when its production does not now, nor never can, at all compensate the planter for the labor bestowed. *There* it is desirable for every one that *other branches of industry* should be pursued. . . . We do not intend to encourage the cultivation of cotton to the neglect of the other products necessary to support or comfort. Every planter *should promptly render himself independent in reference to those articles which could be produced on his plantation.* In this way he would profitably curtail the quantity of land devoted to the cotton crop. An abandonment of the present extremely defective mode of culture, and the sub-

*Gov. Hammond.

*As has been before stated, the other members of the Committee were Judge O'Neall and W. J. Allston, Esq. Mr. A. did not concur with his colleagues in the proposition that there was not already an absolute over-production of cotton.—He believed there was. In all other particulars, and consequently in all embraced in the extracts given, he concurred in the Report.

stitution of a better, would insure a larger quantity of cotton than would be lost *by diversifying the products of industry.* In other words, his cotton crop would be larger; his corn, wheat, rice, oats, barley, horses, mules, hogs, cattle, sheep, butter and vegetables, would be the produce of his farm.

"If, however, the cotton crop is to be given up one-half, after all the reductions of it which we have sanctioned, to what else can the planter of the South so profitably turn his attention? To grain? He already, in ordinary years, produces twice as much as the Middle States, and about one-eighth more than the West. In Indian corn alone, the produce of the South, by her last census, was 300 million bushels. If the planter of cotton is engaged in an unprofitable business, much more is the grain raised. . . . *Millions of acres in South Carolina, including the lower country, are admirably adapted to the raising rich grasses.* This might be added as another branch of industry, from which reasonable profits might be realized, and might very well be added to the cotton planter's income. The business of tanning and the manufactures of leather might be and ought to be enlarged. In this State, all the means of a successful pursuit of this branch of industry are at hand and within the reach of every one. Hides, lime, bark and mechanics (slaves) are abundant."

The remarks in both the above extracts, though made exclusively in reference to South Carolina, will apply equally well, in many obvious particulars, to all the old cotton and tobacco growing States.

To a Northern man, accustomed from his childhood to see sheep husbandry blended, to a greater or less extent, in the operations of nearly *every farm*, and to live among farmers who regard it just as indispensable, and as much a matter of course, as the production of breadstuffs, it seems singular enough that neither of the above able Committees, in looking for "other sources of advancement"—"new products"—"other branches of industry"—both to bring into use millions of acres of unproductive territory "admirably adapted to raising of rich grasses," and to render profitable and preserve the fertility of the tillage lands of the State, should not have thought of wool growing—or only thought of it, as it were, incidentally—at the very heel of a catalogue of farm products, and in reference solely to supplying the home want!

Indeed, the estimate that has been set upon sheep husbandry generally, and by all classes of agriculturists, South, is a source of unmixed surprise to one acquainted with this pursuit, and with the resources of that region for sustaining it. There appears among many, if I may credit your own writers,* to be even a *prejudice* against *sheep* aad sheep husbandry, *per se!* Is this because these animals bear a staple, and give employment to manufactories, which have claimed the "protections" of Government, to the prejudice, in the opinion of Southern politicians, of Southern interests?* Is any portion of it due to the scornful denunciations of the brilliant, but eccentric and cynical, statesman of Roanoke, who "would at any time go out of his way to kick a sheep"? Or is it owing to the, in most respects, justly popular writings of Col. Taylor, of Virginia? Hon Andrew Stevensons, of the same State, in a letter to John S. Skinner, Esq., says:†

"The prejudices which the late Col. John Tayler, of Carolina (who by-the-by, did more for Agriculture than any man in America), had against sheep, has been the means of rendering this description of stock unpopular in many parts of the Southern country. . . . If this distinguished patriot and statesman had lived at this day, he would have changed his opinion."

The impropriety and inexpediency of giving all the labor and prime land of the country to the exclusive cultivation of one or two crops, even leaving the deterioration of the lands, consequent to such a course, out of the question, is forcibly set forth in the Reports above quoted from. But that deterioration is an infinitely more fatal evil, both to individuals and States. An injudicious course of cropping can be easily changed; but, if the land is entirely impoverished, the change comes too late, until labor and capital have been employed in its restoration. The tendency, nay, the absolute connection as *cause* and *effect*, between the one-crop system and such deterioration, has been proven by too sad an experience at the South—is too universally recognized and conceded—to find a single questioner who possesses ordinary intelligence.—Whether the consequent phenomena are solved by the excretionary theory of De Candolle, or the more ordinary one of the exhaustion of some of those substances which constitute the necessary food of plants, the facts presented are the same.‡ The soil yields constantly diminishing crops, until it becomes incapable of producing more than scattering and feeble plants; and the insect enemies of the latter, which would perish if deprived of their aliment by the substitution of some other plants, multiply in a constantly ascending ratio.§

Experience has shown that if vegetables of different classes are made to follow each other, the soil will much longer retain its productiveness. Even when "exhausted" of some one or more of those ingredients necessary for the healthy production of a particular plant, it is found to produce others luxuriantly which do not require the lacking ingredients, or but very small portions of them. And, by a most beautiful arrangement of physical causes and effects, when a plant is removed from the soil, and notwithstanding its place is occupied by others, a process of restoration at once commences to replace all that the absent plant has appropriated, and to prepare the kindly bosom of the earth again for its reception.—Nature herself, in ministering to this beneficent end, becomes a great laboratory; and in her most ordinary, as well as her most unusual operations, she is constantly producing those chemical changes, and furnishing those chemical ingredients, which restored what has been abstracted by man's cupidity, or lost by his improvidence. The gentle rain brings down ammonia and carbon to plants.—The frost rives the solid rocks, to disengage their fertilizing constituents. The sun, in his flaming path, looks down not only to warm and give us light, but to perform functions in the vegetable economy without which all herbage, except a few miserable fungi, would perish; and to all he imparts their varied and beautiful coloring. The thunder which shakes the walls of cities, and strikes man with awe, brings to our aid one of the most efficient promoters of vegetation. Even the bursting volcano converts its fiery crater into a crucible and retort, and gives off the gas which forms so large a portion of all the vegetable and animal productions of the globe: and the wild winds, which strand navies in their course, equally diffuse it over the earth.

It follows from the above positions that naturally good lands* which are more or less exhausted, will be gradually resuscitated by "rest," or an entire exemption from tillage; and hence the absurd idea that lands require physical "rest," in the same sense in which the tired animal muscle requires it, after continuous exertion. But, apart from the theory, the practice of "*resting*" lands is expedient, for the following reasons: If a plant is not continued on a soil until it *consumes* any of those inorganic constituents necessary to its production—if, on the other hand it is succeeded by a plant which

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*Hon. Andrew Stevenson, John S. Skinner, *et al.*, in Monthly Journal of Agriculture, &c.

*If such protection has prejudiced the South, what stronger reason why she should remunerate herself by appropriating a share of it?

†Monthly Journal of Agriculture, July, 1845.

‡The theory of M. De Candolle, apparently so strongly supported by the experiments of M. Macaire, has found many believers. But the statements of the latter have been contradicted by M. Braeonnet, M. Mirbel, and finally are totally overthrown, in my judgement, by the experiments and investigations of Mr. Alfred Gyde, of Scotland. Mr. Gyde shows that the minute excretions of plants have the same composition with their *sap;* and he also watered plants with a solution of their excretions, not only without injury, but to their manifest benefit! For Mr. Gyde's able Prize Essay on this subject, see the Transactions of the Highland and Agricultural Society of Scotland (March, 1846). I am not aware that this essay has been republished in our country. It certainly should be.

§Of the latter evil, the past year furnished a pregnant example. I saw it stated last winter, in the South Carolinian (published at Columbia, S. C.), on the authority of a United States Senator, that the falling off in the cotton crop would be enormous, by reasons of the depredation of *worms.* This evil is constantly increasing, and must continue to, while the planter continues to provide aliment for each succeeding horde of destroyers, by continuing on the soil the plants on which they prey.

*I say "naturally good lands," for those entirely deficient in several of the necessary constituents of a fertile soil might require ages of rest to obtain these constituents—if, indeed, they ever would, by merely natural causes.

makes its heaviest drafts on these inorganic substances which its predecessor required the least of, and *vice versa*—the natural recuperative process above adverted to, *aided by means which lose to us none of the value of the crops*, will repair the waste made by each plant before it again occupies the soil, in a judicious rotation. Hence, by a rotation of crops, fertility can be indefinitely sustained, and the earth each year return its increase. Thus the ends of "rest" are attained, without its great and unprofitable sacrifices.

To sustain the fertility of the soil, some portion of the crops of every rotation must be converted into manure. These are the aiding means alluded to. They may be converted into green or animal manure. If the former, the whole crop is plowed under. If the latter, the crop is first partly converted into animal manure, by animals depastured on it, and then this animal manure, with the remaining vegetation is plowed under.—The last is always the most economical method, on good lands,* because the crop is worth almost as much for manure, *after passing through the bodies of animals*, as it would be turned under green; and then we have all the profit made on or by the animals—meat, wool, &c.—without any additional cost. Sheep being the best manurers, and otherwise the most profitable animals, will (with enough other animals to supply the home demand for the necessaries furnished by them) best sustain a profitable rotation.

[*Continued in our next.*]

FROM THE SOUTHERN RECORDER.

The Improvement of Land.

MESSRS. EDITORS:—We have heard and read so much about the improvement of land, and seen so little practical demonstration of it, that it has become as a "sounding brass or tinkling cymbal"! Many of us, when we read an article on the improvement of land, pass it by without reading it. Why is this the case?—Are our farmers less energetic, more indolent, and more careless, than the farmers of other sections? Are not our lands as easily improved as the land in other States and other countries? Perhaps the answer is this; the plan of improvement recommended is not adapted to our section. Whether this be the case or not, is for others to judge; but one thing is certain, the farmers generally will not go into the practice of manuring their land, until land becomes scarcer by being more thickly inhabited, and until it commands a great deal higher price than it does at present. The great trouble and expense of making manure, of hauling it out and spreading it on the land, will prevent many from attempting it. Indolence will prevent others. The fact is, making manure in lots, hogpens, cowpens, or what not, is not adapted to the cotton plantations of the South, the assertions and recommendations of others to the contrary notwithstanding. Reader if you doubt this, let us hear from you; tell us of your plan, and what is still more desirable whether you actually manure your land or not. I do not mean one acre nor five, but all the land you cultivate.

A gentleman in Hancock county, a few years ago, recommended the plan of making a manure crop (if you will have it by that name) at the same time with the other crop with separate hands to work in each the year round, those who worked at the manure were not to go in the crop, except at a push of time, (or rather a push of grass,) which is sure to come. These hands were to make the manure and spread it; they were to be provided with all necessary implements, wagons, &c., but so far as my information extends no body has adopted the plan, and I reckon the author of it has failed to adopt it himself.

But after all, I am in favor of making manure. Make what you can; if you can't manure your whole crop, manure a part. Save what manure you can, and if you have any spare time, haul in leaves, straw, &c., and when it is well trod, throw it up in pens to rot. Then haul it out and spread it on your land *broadcast*, and you will get well paid for it. Better have five acres of rich land than none. Having rambled thus far, I will come to the subject which I intended to discuss.

RESTING LAND AND THE PEA VINE.

Most farmers have a sufficient quantity of open land to rest a portion every year, and where this is not the case, it can easily be made so. Every farmer should have open land enough so as not to be compelled to cultivate any field every year. Every other year would do, but one in three would do better—I have land that is better now than it was twenty years ago.—To the truth of this, many are ready to testify.

This land has been cultivated in cotton, then corn, then small grain, and lay out the next year. It might have been greatly benefitted by a pea crop the last year. The pea vine is worth more to the South as a renovator than clover is to the North; that is, it improves land faster than clover. Any worn out old fields in the South can be reclaimed and made to produce good crops by raising pea vines on the land every year. If the large old fields which are to be found on almost every farm, were plowed up in the spring, or rather burned over, and then in April or May laid off in rows three feet apart, and planted in peas, they would pay their owners well for their trouble and expense. They would only need scraping off when about to come up, and in about three weeks run around them with a turning plow, or any other that would throw dirt to the vine. I believe that any old land worked in this way would be better than planted in corn and peas both; and one thing is certain, it would be infinitely better for the land. An interesting article on the great value of the pea vine in renovating old land, may be found in the Southern Cultivator for 46 or 7, from the pen of Mr. Cade of this State; a brief synopsis I will give. He had a field of 25 acres lying on a river, or in the junction of two, which was overflowed in 1840, and so badly washed and damaged that he turned it out, several years; finally he concluded to experiment on it with the pea vine, and accordingly he commenced in the spring and planted it with peas. In the fall just before time to sow wheat he turned in his stock and let them stay about two weeks, and then sowed it in wheat, manured the washed and poor places with cotton seed, 30 to 40 bushels per acre. The next year he harvested 160 bushels of wheat. The stock were put in the field for about two weeks again, and then planted in peas, and thus he continued the peas and wheat, for three years. His next crop of wheat was dressed with perhaps 15 to 20 bushels of cotton seed to the acre, on the poorest *spots*—not all over the broadcast—the yield 300 bushels.—The last crop with a still lighter dressing of cotton seed on the poorer spots, was 500 bushels. The next year it was to be put in corn; the result I have not learned. Will Mr. C. please inform us?

The result of this experiment is certainly sufficient to encourage others to do likewise.

In raising peas to improve land, we should raise those kinds which make the most vine, as they will shade the land better. Reader, will you be so good as to tell us what kind of peas you raise in your section, and describe their peculiarities. If yours are any better than ours, I should like to exchange with you. Twenty or thirty peas may be enveloped in a letter and sent to any part of the United States for about 20 cts. postage. We raise here the tory, cow, white 3 kinds, black, speckled, yellow flint and some others.—Some making a great deal of vine, others very little. Some early others late.—Some you may sow in the fall when you sow wheat, and they will come up next spring and make a tremendous crop of vines and peas. Such crops improve the land greatly, and the effect can be seen in the succeeding crop. This is less trouble than the plan above alluded to, and equally certain.

None of our land is too poor to make peas when planted alone. I have seen a pretty fair crop of peas made on land that looked like it would not make more than a bushel of corn to the acre.

WM. C. DICKSON.

A bit of Gentleman Farming.

P. T. BARNUM, of Museum notoriety, has a country seat at Bridgeport, Connecticut. He has given some attention to farming and gardening of late, and was elected President of the Fairfield County Agricultural Society. We give his experience in farming in his own words:

SELLING POTATOES.—'In the fall of 1848,' said he, 'my gardener reported that I had eighty bushels of potatoes to spare, so of course I directed them to be sold. They brought sixty-seven cents a bushel. But, like most small farmers, he sold the largest, and left us nothing but 'small potatoes' to eat at home. But the worst

*I have limited the assertion to "good lands," because a crop of green manure, turned under at the proper stage of its growth, will undoubtedly make rather more manure than in any other way; and it may be expedient many times to give poor lands *all*. This is especially true in the reclamation of barren lands.

is to come. In March we had not even a dish of *small* potatoes. So we bought more than we sold, and paid $1.25 a bushel at that! My experience therefore is, that a farmer had better ascertain first how much he wants for his own consumption before he sends his produce to a cheap market,'

Trimming Fruit Trees by an Amateur.—Another of Mr. Barnum's experiments was in the horticultural line, and was related with such good humor that his large audience was convulsed with laughter. 'Having been elected President of the Fairfield County Agricultural Society,' continued he, 'I felt the importance of my having a little *practical* experience as a farmer. Having read a little about pruning, and watched my gardener awhile, I armed myself with a keen edged carving knife and set to work on my own hook. My first essay was upon a lot of young cherry trees. Half an hour, and my sharp knife gave quite a symmetrical appearance, and removed all redundant limbs and sap absorbing sprouts and suckers; and I prided myself upon this first effort as a pruner, and of course suitable commendations from my gardener for the labor I had saved him, Judge my astonishment, then, as he approached with a rueful countenance, and expession of "Well, sir, you have done it now!'—'Why, yes, I fancy I have. How do you like my work?' said I. 'Like it? *Why, sir, you've cut off all the grafts!*' This was a sad blow to my farming aspirations.—but as I never despair, I shall continue to go on with improvements, but shall be a little more cautious how I use the pruning knife until I learn to know a sprout from a graft. I hope that the relation of my experience as a farmer won't deter many others from seeking the same employment; for if they are capable of using the pruning knife at all, I think they are capable of learning to distinguish, perhaps at less cost than I did, the useful from the useless; and if they did not, perhaps a little sprouting, *a la mode*, in our young days, might help to improve their education."

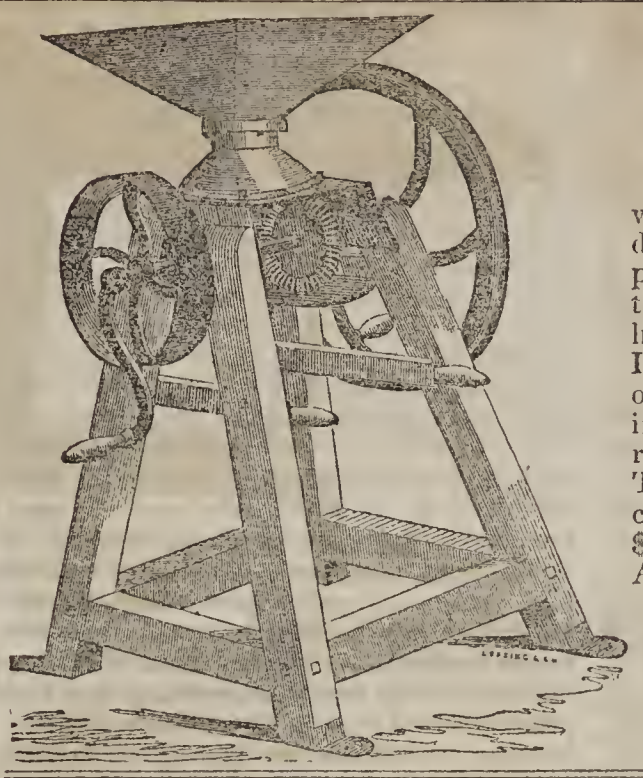
Neighbor Wilkins' Hint.

A man having purchased a worn out farm, and invested all his money in real estate, tried hard by his labor to make it produce a crop. After a laborious summer's work he signally failed. His crops of corn, oats, and buck wheat, were scarcely worth harvesting. Winter came on and with it discouragement and despondency. He met his neighbor, and in the language of scripture inquired, "What shall I do?" His neighbor in reply, in true Yankee style, answered this question by asking another. "Neighbor Wilkins, have you ever kept a hired man on your farm?" "Always." "How can you gain the greatest amount of labor in a season from his efforts?" "In the first place give him a plentiful supply of food, for a full stomach for a laborer is a jewel; next begin the day early and keep steady at it." You have answered truly; manage your farm as you do your hired man.—Feed it with nourishment for vegetation; feed it full and keep it fed. Clear out the barn-yard, sow on all the ashes you can get; cart sand from the drainage of the streets. When you begin upon a field, feed it; feed it full and keep it fed. Then go to the next lot, and feed in the same style. Such fields recollect the kindness, the owner, and they pay him for it more than fifty fold. Then plow and dig and the reward is sure." Neighbor Wilkins opened his eyes in astonishment at his own ignorance, and said, "I see! I see! A feeble, starved field cannot work much. A poor, starved field cannot bear much." Common sense might have taught him, but it had not. Thousands, like him, "scratch gravel" for naught all their days.

Neighbor Wilkins saw where he missed it. The next year he planted four acres of corn, after he had coated the field with all the fertilizing material that he could gather during one short winter. He told me he had "scraped all creation." November told a true story. Two hundred and sixty bushels of corn made him laugh. his wife made puddings without grumbling, and his children eat with pleasure. Thus, friend Wilkins went from field to field, and fed as he went. In its turn it fed him, his family, his cattle. His barren farm became productive; his naked fields became clothed with herbage. He became rich. His farm was rich. Peace dwelt in his household—plenty filled his granaries, and fortune smiled upon him.

Are you unfortunate farmer, cursed with poor land, and stinted crops? Look at Mr. Wilkins, and in the language of the Bible, "Go thou and do likewise."

[*Dollar Newspaper.*



Hand and Horse Grain Mill.

The annexed figure represents a valuable iron mill, very efficient and durable, to run either by hand or horse power. With the latter it can be made to grind 4 bushels of grain fine per hour, and a greater quantity if coarse. It is simple, and not liable to get out of repair; and when the plates or grinding surfaces are worn out, they can be replaced by others at a small cost.—These can always be had with the machine. These mills are worth from $20 to $30. They may be had of A. B. Allen & Co., New York.

Wheat Culture---Deep Plowing.

The average depth that land is plowed for the wheat crop in Ohio does not exceed five inches. To obtain a product of 30 and even 40 bushels per acre, no system with which I am acquainted would secure that result, unless the land be plowed at least ten inches in depth. The best time to deepen soils by the ordinary process of plowing is either late in autumn or early in the spring. A team composed of three strong horses coupled abreast, at the season of the year alluded to, when the ground is soft and moist, will be able to plow the land as necessity may require. The subsoil in most cases contains an abundant store of the elements of fertility, requisite to secure a large average yield of wheat, to be sown as an alternate crop with clover, and corn or other of the cerial plants. But what use is this store of the reproducing elements of fertility. unless they be brought to the service by the plow to be exposed to the action of the sun, air and dews, so as to undergo decomposition to be taken up by the sap vessels of the plants? Deep plowing, when the surface soil is composed principally of the vegetable remains and the subsoil is of an aluminous and calcareous character, is particularly valuable in imparting to the entire mass a consistency and firmness that is peculiarly important, for the wheat crop. In the vegetable, like the animal kingdom, like begets like, and if the soil is mainly a vegetable would it stand to reason that a large growth of vegetables will be produced on such soils? The vast amount of decaying vegetables that are constantly undergoing decomposition send, forth in a gaseous form Ammonia, Nitrogen, Carbon and other elements, of fertility, which are returned again to the soil by the dews and rains, and by this process, an over ruling Providence supplies comparatively barren soils, with a portion of the superabundant fertility of the rich vegetable and valley lands. It is partly on this account that deep plowing is so highly efficacious in this country for wheat and other cerial crops, when performed on soils that are naturally destitute of animal or vegetable remains. By plowing the land to the depth of ten or twelve inches, the roots of the wheat plants will strike down to the full depth that the soil has been loosened, and crops growing on such soils suffer much less from the drought than when stirred only three or four inches deep. The latter influence is of the greatest importance in

this country, especially during the months of May and June, when the crops are maturing and ripening. A soil that is stirred to the depth of twelve inches will absorb all the rains that fall during the summer months, and the water thus absorbed again returns to the surface by the rootlets of plants and by capillary attraction, and thus the crops are growing, perfecting and ripening, whilst on shallow soils the water washed off the land into the streams and during a protracted drought become parched up, and prematurely ripen their seed.—*Wool Grower.*

From the Albany Cultivator.

Draining.

Eds. Cultivator.—I am not ignorant of the use of *stones* and *tiles* in draining. Without meaning to decry the use of either, and admitting that, in some circumstances, they are the most eligible material for this purpose. I yet wish to describe another mode with which I am familiar, and which I have practised with great success. The main material of my plan is hemlock lumber, in the shape of board and scantling.

1. *The ground to be operated upon.*—My upland grounds are sandy, and slope off into a swamp with a clay and clay-gravel subsoil, which also probably underlays the upland, as, just upon the brow of the side-hill, the water oozes out from beneath the sand, making the low land very wet, since, from the nature of the subsoil, the surplus waters cannot subside readily.—The object of my draining is to carry off the water from the side-hill across the low ground.

2. *General course of the Drains.*—I first made main drains from the hill, starting usually in some gully or natural ravine, and following the lowest ground and so across the field. I tried to make other drains intersecting these, and at nearly right angles, on the brow of the hill, but, from the spongy nature of the soil, I was only partially successful. Some of these last drains needed to be tapped in the centre, by running a branch directly down the hill to the nearest point of the main drain, to prevent a fatal dripping down the brow of the hill.

3. *Mode of Construction.*—I dug my ditches from two to three feet deep, so as to have them below the frost and the subsoil plow. Sometimes it was needful, in crossing some point of land that made out into the desired course of the ditch, to dig much deeper for a short distance.

They were usually made about one foot wide at the bottom. Where the ground was soft, I frequently could dig but a rod at a time, before it was needful to lay the drain to prevent the sides from falling in. Occasionally it was convenient to begin the ditch at the upper end. Suppose a considerable portion of ditch dug, I laid my materials thus. If the ground were much descending, or the bottom were of loose sand or filled with sticks, I made it as level as possible and then lay down my boards, end to end fitting the ends pretty accurately. But if the ground were nearly level, and a firm clay or hard-pan, I used no board in the bottom, Upon this board or hard-pan I placed my scantling, which were sawed 2×4, and were set in the narrowest side. I was careful to have the scantling break joints with the boards, as this would prevent the work from settling unequally.—These scantling were placed, for the widest drains, 6 or 8 inches apart, and for narrower, three or four. They were tacked at the ends with nails to hold them firm. The top board was then laid on, and nailed with about six nails of twelve feet in length. Care should be taken always to have the top board sound and free from bad shakes, as it has to sustain a considerable weight. The water way shonld be carefully cleared of all sticks and loose stones. Where the amount of water is large, and especially when the drain descends a hill, I leave the ends of the scantling a half inch apart, and saw them off sloping, so that an orifice is left open pointing up hill. A grass sod should be laid close to the scantling below this orifice. In case the end of a drain is at a spring or bed of quick sand, it will be needful to guard it, otherwise some beds of quicksand will discharge large quantities of sand in a short time. This guard may consist of loose brush fixed firmly around the opening.

Generally, I take no pains to lead the ordinary water along the course of the drain into it, as it is sure to find its way through the chinks between the boards and scantling. Side drains are united to the main one by sawing out a few inches of scantling on one side of the main drain, and bringing up the end of the drain snug. Where a drain is laid deep, and in very heavy soil, I prefer not to throw back the soil just as it came out, but to mix muck with it to make it porous.

Results.—I have laid during the last five years nearly two hundred rods of such drain and have had but a single failure. That was of a side branch running down a steep hill. The meadow moles had dug in at the head during the winter under the snow, which melting in the spring, deluged the drain, and carried so much sand down to the junction as to stop it up. It was readily and cheaply repaired.

By means of these drains, I have reclaimed six acres of ground, some of which was a shaking quagmire, so that it is now good tillage soil.

Expense.—I make no estimate of expense, The price of digging will vary greatly with circumstances. The price of lumber will vary also with place.

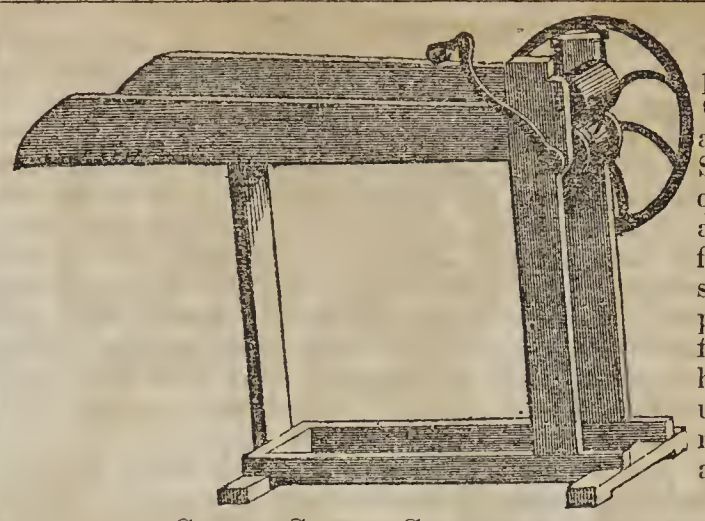
Suppose the boards to average ten inches in width, they will, with the scantling, make fifty feet of lumber board measure, to the rod. The cut nails will cost but little. Nor is the work of laying difficult—less so, I think, than with any other material. The care of wise location, and of faithful and judicious construction, will be nearly the same whatever be the material. When the lumber keeps wet, as it is likely to do in my case, it may be expected to last a great many years. My greatest trouble is with the meadow moles, whieh seem to choose the soil over ditches on account of its deeper, dryer, and softer character, and because their prey is more likely to abound in such a locality.

In a country where lumber is cheap, I think this drain could be made more cheaply than any other, in permanently wet ground. It will be less liable to choke with sand than any other, and less liable to incidental injnry from cattle, plowing, and the stroke of a crowbar, or the subsidence of the soil. And should the top board split and settle, it could hardly endanger the current of the water.

This drain, as every other, needs to be carefully watched at the mouth, lest it should choke with the sand, which will always flow down in greater or smaller quantities.

C. E. G.

Utica, March, 1850.



Spiral Straw Cutter.

Spiral Straw Cutter.

We gave in No. 2, of this paper, a cut representing the large Cylindrical Straw Cutter. The annexed represents the Spiral Straw Cutter. Persons of our acquaintance, who have tried th em, are much pleased with their performance. A. B. Allen & Co., says of this cutter: "We have this pattern made large, strong, and fitted to go by horse power. One has cut a ton of hay in 50 minutes, by a fair trial, and may be relied upon for cutting a ton in an hour and a quarter."

We think it scarcely necessary to say to our readers that there is undoubted economy in the use of the Straw Cutter in preparing every kind of fodder, from corn stalks, down to the finest hay, for our horses and cattle.

Grind your corn and cob together into *fine* meal, cut your hay, husks, or fodder, wet, and mix, and in that state feed to your stock, observe the effects, compare with our common mode of feeding, and there is little doubt at least one fourth will be found saved by the operation.—Eds.

Franklin found time in the midst of all his labors to dive into the hidden recesses of philosophy, and to explore the untrodden path of science. Want of time, therefore, is a poor excuse for ignorance of one's profession.

Snow fell in New York on the 17th May.

From the Southern Agriculturist.

Report of the Committee of the Barnwell Agricultural Society, on the Culture of Cotton.

Read at their annual meeting, on 11th Nov., '40.

In reporting on the cultivation of cotton the great difficulty with the committee, has been to determine what topics to exclude, so as to be as brief as is requisite for the occasion. To discuss, *at large* the different qualities of soil, best adapted to this plant—the various methods of preparing the land, and planting—the working, gathering and preparing for market—the making and applying manures—the rotation of crops, raising stock, and management of negroes—all of which might be embraced, as intimately connected with the subject—would be more fatiguing than improving. The committee prefer to touch only here and there, upon these topics, and at the risk of appearing somewhat desultory and unconnected, will refrain from a full and systematic investigation.

It must be premised, that there are two very different plans of applying labor to the culture of cotton, both of which are followed successfully, as is supposed, in our district. These may be called the upper and lower country system, from the sections in which they originated, and are in general use. The one goes upon the principle of economizing labor, by applying animal power, and developing the full resources of the soil: and where provisions are easily made, and land abundant, it has been found to work well.—The other dispenses, as much as possible, with animal power, economizes in provision, and husbands for a future generation the vigor of the soil—or *aims to do it.*—Both include manuring, as much as can be done conveniently, but more is probably done by planters who adopt the latter.—That more cotton is made by the up country plan, experience has demonstrated beyond question, in both sections: whether it is made more cheaply, and (what is more important,) brings more clear money to the pocket of the planter, depends so much on the particular circumstances of each individual proprietor—the character and extent of his land—the adaptation of the climate to provision crops—the number and training of his laborers—and his own tastes and habits, that it is almost impossible for any general rule to be laid down. One of your committee has used and discontinued the lower-country system, the other has done the same with the up-conntry one. Perhaps it is worth the while of every individual, to make the same experiment once in his life, and we recommend it particularly to all, who are unsuccessful under their present system, whatever it may be.

Your committee agree, that with any kind of culture the mulatto pine-land, (as it is commonly called,) with a clay bottom, is the best in our section of country, for cotton, or perhaps any thing else. The Indians, even, seemed to have agreed on this; for most of the Indian old fields, are of this kind of land. It has been lately analyzed by Professor Shepard, at the request of the agricultural Society of St. John's, Colleton, and found to contain a large comparative proportion of carbonate of lime from which, no doubt, its fertility in a great measure results. The clay bottom to this, and all other land, is certainly an advantage, as it assists in preserving the salts of manure, and to keep up, in ordinary seasons, a due degree of moisture. In very wet ones, such as this, however, it retains too much for the light soil above, and in very dry ones, such as the last, it seems to arrest the moisture which might otherwise arise from the depths of the earth. This land and any land, is better for cotton, when a little undulating. The sun, the great chemical agent in vegetation, has then more effect on it.

The ground cannot be too well prepared for cotton. If it has rested one year, it should be broken flush, as early in the previous fall as possible, and bedded just before planting. If it has rested two years, or been planted the preceding year, let it be listed, as early as it can be done, and two furrows thrown upon the list. Immediately upon planting let two more furrows be thrown up, and the balk broken out completely. The common method of running three furrows, and planting on it, throws the winter's portion of the crop-work upon the laborer, during crop time, and is inexcusable, unless heavy clearings are absolutely required. The reason for not listing after one year's rest is, that the vegetable matter will be too abundant, and too coarse to form a substratum to receive the tap-root.

Cotton should be planted early. It may increase the difficulty of getting a stand, and give the plant for a long time a puny appearance, but every stalk of cotton, planted in March, or the first week in April, that survives, may be readily distinguished in any field, that has been planted later. It bears more, and earlier, and stands all the vicissitudes of June, July, and August, better. There are several methods of planting. Your committee recommend planting in spots regularly measured by the hand dibble. It is somewhat tedious, though less so than is generally supposed, and certainly does not take so much time as both to drill and chop out: nor is time so valuable at that period, as when the latter operation is required, while a better and more regular stand may be secured. There is no land, or but little in our district, in which apart, cotton rows should be over three feet inches or the cotton further than fourteen in the drill—one plant in a place. To make a large crop, there must be an abundant supply of stalks. When the weather is too wet to plant, time may be often saved, by dropping the seed, but not covering till the ground is drier. If, however, it cannot be covered in three or four days, it is time lost, for it must be replanted.—Always cover lightly, under any circumstances. And always plant on something of a bed, in any land. It keeps the cotton dryer and affords more air when it is young. It enables you to get at it in working. By increasing the surface, it absorbs more moisture, if it is too dry; and gives out more if it is too wet, and in both cases gives you the advantages of a vertical sun, on the tap-root, which hastens the maturity of the bolls—a vast desideratum in our climate. On this account the bed can hardly be drawn too high at the last hoeing, in any season.

In cultivating cotton, whether with the plow or hoe the chief object is to keep down the grass, which is its greatest antagonist, bringing all, or almost all other evils in its train. It is not so essential in the opinion of your committee, to keep the ground stirred, as is generally supposed, and by no means requisite to stir it deep—at all events not in our light soil. If it be well prepared, deep plowing is not only unnecessary for any of our crops, but often highly injurious to them, while it rapidly exhausts the land, by turning it up fresh under a burning sun. Much unnecessary pains is usually taken and time lost, to work the plant in a particular way, under the supposition that it is a peculiarly delicate one. If it survives its infancy few plants are hardier. It is often found to reach maturity in the alleys, where the mules walk, with the plows following and the laborer tramps backwards and forwards. Sometimes it will bear fruit in turn-rows used frequently for wagons, while it really seems to derive benefit from being bitten down almost to the ground by animals—it will bear almost any usage, better than it will that mortal enemy—grass.

The most critical operation in working cotton *is thinning*. It should be done with great care, and if early, with the hand. In a dry year, it cannot be done too soon after the plant is up. In a wet one, it may be profitably delayed, until it has begun to form, or later even. On the experience, observation, and judgment of the planter, in this matter everything depends, as each year brings its own rules with it. Where circumstances are favorable, early thinning is of course the best. Some planters always top their cotton. Others never do. Your committee are of opinion, that it seldom or never does harm, to do so. But whether it is worth the trouble, is a doubtful question. Those who have no clearings, or other important employment for their hands, would lose nothing, by devoting three or four days to this operation early in August. Those pressed for time, might gain by omitting it.

Too much pains cannot be taken in preparing cotton for market, for they are all well remunerated by the additional price.—The first thing to be attended to is to have it gathered free of trash. With a little care, wonders can be effected in this way; and hands with a short training, will pick almost if not quite as much without trash as with it. It should never be gathered when wet. And here it may not be out of place to remark, that one of the very best sanatory rules of a plantation is, never before frost to send out your hands to pick, until the dew has nearly or quite disappeared. It saves time in the long run, as well as health and life. Cotton should never be ginned, untill the seed are so dry as to crack between the teeth. If damp it is preferable to dry it in the shade, as the sun extracts the oil and injures the staple. If by accident, however, it gets

wet, there is no alternative but to put it on the scaffold. It is of great importance to sort the cotton carefully, into its several qualities, in ginning and packing, for by mixing all kinds together, the average of the price is certainly lowered. A few old hands, or very young ones, breeding women, sucklers, and invalids, will earn excellent wages in a gin house, at this occupation. Neat packing is of no small importance, in the sale of cotton, and no little taste may be displayed, in making the packages. The advantages of square bags, is universally known, and the committee are astonished that any other should ever be made now.

Every kind of manure is valuable for cotton. Every kind of compost, green crops turned in, cotton seed, and even naked leaves listed, and left to rot improves this crop. When planted on cotton seed, and sometimes on strong stable manure, it is more difficult to obtain a stand, owing probably to the over stimulus of these manures. So, on leaves, unless well rotted, the cotton will long continue to die, in consequence of the leaves, decaying away and exposing the roots too much to the sun and rain. These difficulties may be avoided, by a little pains, and by no means justify the opinion entertained by some, that cotton should never be planted on fresh manured land. The only question is, the cost of the manure. A great deal may be made on every plantation, without much trouble or expense, by keeping the stables and stable-yard, hog and cow pens, well supplied with leaves and straw. And also from pens of corn cobs, sweepings from negro and fowl-house yards, and the rank weeds that spring up about them, collected together and left to rot. Whenever the business is carried further, and a regular force detached, to make manure, at all seasons, and entirely left out from the crop, it becomes the owner to enter into a close calculation of the costs and profits. In many agricultural operations, such a course, the experience of all countries has proved to be profitable, but these opperations partake more of the farming and gardening, than planting character, and whether the same method will do for the extensive planting of short staple cotton, remains, in the opinion of your committee, yet to be tested. If any thing like an average of past prices can be maintained, it is certain that more can be made by planting largely, than by making manure as a crop. If, however, prices continue to fall, and the growing of cotton be confined to a few rich spots—those susceptible of high manuring—then our whole system must be changed, our crops must be curtailed, and staple labor losing its past value, the comparative profit of a cotton and manure crop will preponderate in favor of the latter. As a substitute for manuring on a large scale, resting and rotation of crops is resorted to. In our light level land, the practice of resting cannot be too highly recommended, and by a judicious course—such as resting two, and planting two or at most three years, our lands may not only be kept up forever, but absolutely improved. From rotation of crops but little advantage is gained for cotton. After small grain, whether from the exhausting nature of that crop, on light lands, or because the stubble keeps the ground always rough and porous, cotton will not do well. After corn it is difficult to tend, as from our usual manner of cultivating corn, grass is always left in full possession of the field. It does best after cotton, or after a two years' rest.—Rest is the grand restorer, and the rotation chiefly required in the cultivation of cotton.

It may not be out of place to state here, that in the opinion of your committee no other kind of labor can be profitably employed in the culture of cotton, than *slave labor* in this country. The expense of machinery and carrying to market, renders it unprofitable with but one or two laborers, which are all that one free family, can in general supply, while it is almost impossible, to carry on the steady and unvaried operations of a cotton plantation, with such hirelings as can be obtained here. An irresistible necessity must fix them in the occupation. Whether that necessity be the open and legalized slavery of this country, or the equally imperative exigency which forces the Irish peasant, and the Indian ryot, to labor without ceasing, as the sole condition of existence makes but little difference. It is said that free labor, by which, no doubt, is meant such labor as the latter, is the cheapest. It would seem, indeed, where the labor of an able bodied man can be commanded at any moment, for a pittance that barely suffices to keep soul and body together, that it would cost less to support the same man in sickness as well as health, in good or bad seasons, to nurture him when young, to support him when old, and at all times to furnish him with good food, comfortable raiment, and safe medical assistance, and to do likewise for the feeble and decrepid of his family. It is undoubtedly the case, so far as the agriculturist, alone, is concerned. But what is done by him for his negro slaves, must be done to some extent by the community at large for the equally helpless *free* laborer. Poor laws and almsgiving shift from the agricultural to the other classes, the burden of keeping him alive, and supporting his family, when his services are not needed, or he is unable to render them, and it is only inasmuch as he is worse lodged, clothed, and fed, than the negro slave, or is cut off by starvation or disease, before he has ceased to be able to work, that the cost of his labor, is in reality less than that of the slave, to the community at large. Let the philanthropists of other countries, enjoy the advantages of such economy as this, and thank God that they are not as other men. We are content to follow the example of the ancient patriarchs—to uphold the institutions regulated by the inspired lawgiver of the old, and neither abolished nor condemned, by the immaculate Author of the New Testament; well pleased to pay a higher price for our labor, if it goes to prolong the life, or increase the comforts of that invaluable class, which has existed, and is destined to exist in all times and countries, whose lot it is, literally, "to earn their bread by the sweat of their brow."

Your committee cannot conclude these desultory and incomplete remarks, without adding, that with every care and attention in the cultivation of cotton, after the adoption of every improvement, and using the utmost economy in every arrangement, there is no planter in our section, if there be any in the State, who can make the legal interest of 7 per cent. per annum, on his investments, by planting cotton, at present prices. There are very few of them, on our best lands, who can realize this much, at 10 cents per lb. net, and not many who can do it at 12 cents. If prices do not improve, most of us will become compelled to abandon cotton. If they fall lower, it will be difficult to say who can plant, in this section, at least. A very few years more will decide our fate. It will be the part of wisdom to go on, and endeavor to perfect the art of planting, that we may be able, if it is possible, to compete with richer soils, and more congenial climes; but it would be folly, if we did not, at the same time, look around us to see what our country is capable of yielding, and encourage liberally every effort to develop our resources, diversify our productions, and introduce new staples.

J. H. Hammond, *Chairman.*

An Important Trifle.—We see no reason why writers on farming and domestic economy should not be correct in the use of the English language; yet a very common blunder is committed by many of them, under a false notion of being very accurate and precise.

The plural of words is formed by adding *s* at the *end* of the singular, but in the instance alluded to, it is formed by crowding the *s* into the *middle* of the word, thus,—*spoonful* and *shovelful*, should, like all other single words, be changed to the plural by the addition of *s*, as *spoonfulls* and and *shovelfuls;* and not by placing it in the middle, as *spoonsful* and *shovelsful.*—If you wish to say three *spoons full*, this will of course be correct, for here there are two distinct words, fully spelled out, and the plural indicates the three implements or spoons on the occasion; but the word spoonful designates a certain *quantity*, precisely as the word bushel does; and it is no more correct to to say *three spoonsful*, than to say *three halfsbushel.*

Comfort of Laborers—A great object with every farmer should necessarily be, the comfort of his laborers. This is required by humanity as well as interest.—They who are half fed and half clothed, will not be able to do more than half work. Servants, thus treated, will be committing constant depredations on their masters' and neighbors' property. He who treats his slaves kindly, will have them attached to him, and he will find them faithful and devoted to his family. But kind treatment is not incompatible with industry and strict discipline. Like all other persons, negroes become idle and vicious by indiscreet indulgence.

[*Southern Agriculturist.*

The Farmer and Planter.

PENDLETON, S. C.

Vol. I., No. 4:::::::::: June, 1850.

Sheep Raising in the South.

Recently from home we had a conversation with several intelligent gentlemen on the subject of sheep raising in the South. One believed it might be made a profitable business, another doubted, and a third thought it would do, provided we had a market for our old sheep—but the want of which constituted an insuperable objection to the business—because, without a market, which would enable us to dispose of our surplus old sheep, we should in a few years become overstocked.

We suggested that if we were to limit the number of sheep in proportion to our family, we might in a good degree consume the overplus on our farms, and that we knew of no cheaper or more wholesome food.

But why not find a market in the south? We have known of a great many sheep being driven to Charleston, Augusta, and Columbia, and never heard of any coming back. One of our subscribers, now living near Greenville, drove to Augusta from his farm on the Grove, some years since, a flock of sheep for which he obained seven dollars per head, a very fair price for a sheep for slaughter every one must admit. They were uncommonly fine, however,—the fattest sheep we ever saw, but they were made so from the surplus produce of his farm for which, in that shape, he realized the cash, besides making from them a large amount of the most valuable manure to return to his land. Under the head of "*Smoked Mutton as an article of Food*," the editor of the *Boston Cultivator* says:

"The editor of the Tennessee Farmer declares his preference for the ovine over the bovine or the swinish race. He says on his knowledge of physiology, which none will dispute, that a pound of lean tender mutton, can be procured at half the cost of the same quantity of fat pork; and that it is infinitely healthier, in summer especially; and that those who feed on it become more muscular, and can do more work on it with more ease to themselves. He knows of nothing more delicious than smoked mutton hams."

On the "Profits of sheep husbandry in the South—by giving to Southern Agriculture a mixed and convertible character—by furnishing the raw material for the manufacture of domestic woollens," we would call the attention of the reader to a letter on page 55 taken from the Farmers' Library.

We should be really glad to see a greater diversity of occupations in the South, and shall, through the columns of the Farmer and Planter encourage it on all suitable occasions. We are too dependent on others for many of even the necessaries and comforts of life that we might just as well produce at home. *It is high time we were seeing to it.*

We owe an apology to correspondent I. S. W. for giving wrong initials to his valuable communication in our last. It was an oversight in the proof reader.

Correspondents---Hereford Cattle, &c.

In the preceding numbers, our pages have been graced with illustrations of cattle of the Hereford breed, furnished us by Col. A. G. Summer of Ravenscroft. We feel much indebted to him for proffering us the use of cuts of animals of this valuable breed of cattle, and tender him our thanks for an act of courtesy, as becoming in him, as acceptable to us and our readers.

It is too true the Herefords have not had a fair chance either in this country or in England, and it is a matter of congratulation that they at length have fallen into hands willing to give them a fair trial, and fearless to present those points in which they excel other breeds. There are few better judges of cattle in the South than Col. Sumner, and none freer from prejudice and the influence of cliques—a matter of no little consideration.

In some respects we are satisfied the Herefords are well suited to our wants, and have high claims to the attention of every Southerner who wishes to improve his stock of cattle, and this ought to embrace every husbandman. They are hardy and have excellent constitutions.—They are easily kept in presentable order, which must be a great consideration with us until we have better pastures and better ranges for our stock than we as yet have.

The day is quite at hand when our interests will be so clearly manifest that we shall vie with each other in introducing the best breeds of cattle and in carrying them forward to as high a state of perfection as possible. It is reduced to a certainty that the dairy business may be made very profitable in a wide belt of country stretching along the high lands of this State, Georgia, and North Carolina. Establishments for making butter and cheese for commercial purposes on a moderate scale are now in operation, and larger ones are in progress. For the purposes of grazing we do not believe the fine lands of Western New York surpass the lands already opened in Pickens District, and on the North Carolina side of the mountains. We have seen these lands and know their capabilities; we have also taken pains to inform ourselves of those of New York—mints of money to that region of country—and are convinced the advantages are very decidedly in our favor.

When the facilities now in prospect for transportation from the highlands to the coast shall be completed, there will be developments that will be quite surprising. The upper country will then furnish its neighbors with butter not inferior to the Goshen, with cheese, beef and mutton such as they are now strangers to. The plantations of the low-country will find their Lynn here where they may be supplied with shoes, saddles, and harness. A Lowell or a Manchester will spring up upon our crystal streams—all will contribute directly or indirectly to the prosperity of the great leading pursuit of the South, the culture of cotton—all will promote the general welfare of the South. We shall then be a tower of strength which the waves of fanaticism cannot undermine nor the blast of malice move.

We may then if we choose build around us a wall, that shall penetrate the skies, and live in luxury within, on our own resources, until *the world* as a suppliant beggar kneel at our gates to ask admission.

Sale of Stock.

We would invite the attention of such of our readers as are satisfied that we ought to improve our breed of cattle to the advertisement on our last page. Mr. Allen will offer for sale, on the 29th of August next, a large herd of *Shorthorn* Cattle, also a choice flock of Suffolk Sheep, Suffolk Swine &c. The opportunity to purchase will probably be a very good one.

Items.

We have received and now have in the office specimens of grasses and grains growing on the plantations of several gentlemen of the following measurement:

From Dr. A. B. Crook of Greenville, Orchard Grass (*Dactylis glomerata,*) 4 feet 6 inches in length. Oat Grass (*Avena elatior,*) 5 feet 6 inches. Red Clover (*Trifolium pratense,*) 3 feet. Wheat 5 feet 6 inches. Rye 7 feet.

From John Maxwell, Esq., of Pendleton:—Rye 6 feet 6 inches. Orchard Grass (*Dactylis glomerata*), 5 feet. Wheat, 5 feet 2 inches. Oats not out of "the boot," 4 feet 2 inches. Barley, 3 feet 1 inch.

We saw last week on the plantation of Dr. O. R. Broyles, of this neighborhood, a beautiful plat of four acres of well set Red Clover, averaging about 2 feet 6 inches in height, and in spots as high as 3 feet 6 inches. This was on the bottom land of the Eighteen Mile Creek. We also saw about 2 acres of Timothy grass (*Phleum pratense,*) just in "the boot," which, when fully grown, will be from 3 feet to 3 feet 6 inches in height. We plucked a few heads of the more advanced from 6 to 11 inches long. This is certainly a very handsome showing. The hay made from these two plats of grass will be worth more than the blades on a hundred acres of corn. Our thanks are due Dr. Crook, Mr. Maxwell, and Dr. Broyles for the specimens forwarded to us. They prove to the skeptical that the grasses in the South are by no means beneath our consideration.

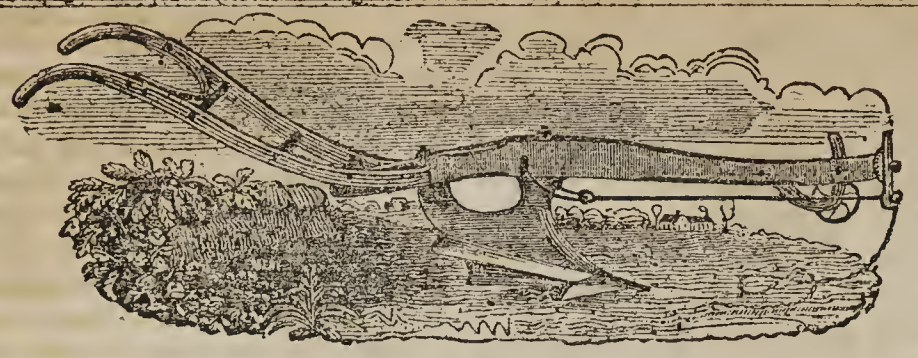
Cotton—Cotton here as elsewhere is very unpromising.

Wheat—Wheat has been very much injured by the rust, much of that sown late will be entirely destroyed.

Corn—Corn is unusually small for the time of year.

Oats—Oats are very fine.

Fruit—Never more promising—with this we will indulge the palate and grow fat.



Subsoil Plow.

The above cut represents the celebrated Northern Premium Subsoil Plow. Having been one of a committee appointed by the Pendleton Farmers' Society in 1847, to test the comparative merits of it and the Southern Plow by Dr. Broyles, we know it to be justly deserving much of the praise that has been bestowed upon it.—But taking the three *desiderata*, simplicity of construction, price and efficiency into consideration, we would much prefer the Broyles Plow—which at present we are unprepared to illustrate. In support of our individual opinion, however, we give below the report of the Committee, of which the Hon. J. C. Calhoun was Chairman:

"The committee of the Pendleton Farmers' Society, on the subsoil plowing match between Dr. O. R. Broyles and R. A. Maxwell, Esq., submit the following report and observations:

The plow used by Dr. Broyles was one of exceeding cheapness and simplicity of construction, and invented by himself.—Mr. Maxwell used the celebrated one-horse plow of Ruggles, Nourse and Mason, from New York. The ground selected by the Committee, was a level lot in the village of Pendleton, composed of a shallow grey soil, with a firm red clay subsoil, which had been used as a grass lot, exposed to the hoof, and not having been lately cultivated, was about as firm and compact as the ordinary old fields of similar composition, a few years after being turned out. To enable the Committee, to come as nearly as possible at the relative amount of draught, it was agreed that the same breast of horses should be used in both cases. The New York plow was first introduced, with the following result on a fair trial:

Ultimate depth at full draught, 12 to 13 inches.
" " at ordinary " 8 to 9 "
Furrow slice " 12 "

Dr. Broyles' plow was next introduced, and resulted as follows:

Ultimate depth at full draught, 17 to 18 inches.
" " at ordinary " 12 to 13 "
Furrow slice " 12 "

Neither of the plows were preceded by any other. The only remaining question, *pulverization* was next tested by cautiously scraping away the earth, which was found thoroughly broken to the depth the plows had penetrated in both cases. The result may be summed up as follows:

1st. As to *depth*, the most material point—Dr. Broyles' plow, penetrated with the same apparent draught, about *five* inches *deeper* than the New York plow. A fact which must be considered the more remarkable, when it is recollected that this excess was in the lower, and consequently, more tenacious part of the land.

2nd. *As to pulverization*, the performance was considered equal and perfect in both cases.

3d. *Width of furrow slice*, the same—12 inches, no wider space having been tried, because not desirable.

4th. *Cost of construction.*—The difference in this respect is truly astonishing, and is as follows: Dr. Broyles' plow cost—

To 12 lbs. bar iron ⅝ by 2 inches at 5 cts.	$0 60
" Smith's bill for making, and clives	1 25
" a plain Coulter stock	75
Total (rough and without paint)	$2 60
Ruggles & Co.'s plow cost—	
In Charleston	$6 50
Freight to Pendleton	$1 50
Total	$8 00

5th. *Adaptation.*—In this respect Dr. B.'s plow cannot, or has not to the knowledge of your Committee, been surpassed; consisting of a single bar, which passes downward through a beam, in the manner of the old fashioned coulter. It is obvious that nothing more is required to make it a one, two, or even four horse plow, if desired, than simply to extend the bar further through the beam, and by the same means, it is obvious that it may be regulated so as to attain any desirable depth in weed, or grass land, which would present an insuperable obstacle to successful results with the New York plow when not preceded by a turning plow.

The committee, in conclusion, feel no hesitation in awarding to Dr. Broyles, the *honor* of a complete triumph over his competitors.

The superior performance of his plow is evidently owing to its having been constructed in conformity to scientific principles, which impart to it the power of such astonishing performance, at such comparatively small expense of horse power.

And considering the *very great* advantages likely to result from subsoil plowing in our future efforts to reclaim and improve our lands, we regard this plow as a very valuable acquisition to the interests of Agriculture. Respectfully submitted,

J. C. Calhoun,
R. A. Maxell, } Com.
Geo. Seaborn.

Dr. Lee, in the May number of the Genesee Farmer, in speaking of the Southern Subsoil Plow, which we presume is the Broyles Plow, says:

"Last autumn, a premium was awarded to a sub-soil plow which we presented at the great Fair of the Southern Agricultural Association, at Stone Mountain, in Georgia. Cultivators regard this implement as better than the New England Subsoil plows; and if it should be our lot to dig an honest living out of the hard pan-hills of old Chenango, as in days past, a sub-soil plow would follow in the furrow of the turning one, and break the iron bound earth into small fragments. The Southern implement to which allusion has been made, is essentially a winged-coulter, made strong, and placed in a strong beam. A good single team can pull it without severe labor."

We, with our neighbor R. A. Maxwell. Esq., having been honored by being elected "honorary contributing members of the American Institute," at New York—forwarded as a compliment to that Society one of Dr. Broyles' plows, with a copy of the Committee's report some eighteen months since—but the receipt has never been acknowledged, nor has the plow been heard from since it arrived at Charleston. It was thought on receiving the plow the Institute would order a trial of it, and publish the result, but in this our expectations have not as yet been realized.

Grading Level.

We give above a rough wood cut representation of a Grading Level we have in use, which any mechanic can make after examining the figure. A space of 16 ½ feet, (1 rod) subtends it:—The two legs should be not less than 9 feet long—the brace about 7. To ascertain the point the plumb line should cut when the instrument stands on a perfect level, set it on a plank or flat surface as nearly level as you can judge by the eye—after the plumb has come to rest, mark the point cut by it, then turn the instrument round so that each foot occupy the ground the other did at first—again mark the point indicated by the plumb.—Then with a pair of dividers take a point at equal distance between the two—and this gives you the point to be covered by the line when the instrument stands level—by placing a block under the lower foot of sufficient thickness to bring the plumb to this point, you have the instrument level and ready to lay off your grade lines. To do this, place a block 1 inch thick under one foot, mark the point cut by the plumb, then change the block to the other foot, mark again as before—this gives you a grade of 1 inch—repeat the operation with 2 and 3 inch blocks, which will give you the grades of 2 and 3 inches, and you may grade your land accordingly—we usually give 3 inches to the rod—the grade should be varied according to circumstances—viz: the greater or less declivity of the land the closer proximity and length of the drains, &c.

For levelling sills or foundations for houses this is a valuable instrument.

Remarks on the Improper Use of the Plow in the Cultivation of Indian Corn.

We publish the following article for the especial benefit of such of our readers as believe (and there are many good farmers who do,) that no injury is done the corn crop, but on the contrary, an increased production is the result—by cutting the roots of the stalks so far as may be done by the plow at any stage of its growth. We have frequently had arguments with farmers on this subject, who attributed to the actual breaking of the roots the beneficial effects of the plow in breaking and pulverizing the soil, which from its close and impervious texture could not be penetrated by the small roots of the plant. Such soils force us to plow against our will. It is a choice of evils. If we do *not* plow the roots can make no progress in search of food, consequently the plant suffers, if it does not perish. If we *do* plow, we thereby change the texture of the soil so as to allow the roots that shoot out from the old stumps, to penetrate it in every direction and derive ultimately more food from it than the original ones could have done, in its brick-like state.

This will be the case generally in such land provided the seasons continue good; not, however, because the roots were cut, but *in consequence of plowing and loosening the soil*; but should a drought ensue then, good bye corn. This most farmers have had ocular demonstration of we presume. We recollect having greatly injured a very promising field of corn in this way some years since, the corn being fully in tassel and silk at the time it received the fatal plowing. We had our doubts as to the propriety of the course we were about to pursue, but a thick coat of grass having sprung up after plowing, and wishing to exterminate it, we resolved on risking the season, which up to that time had been good. We went to work and did exterminate the grass most effectually, and very nearly the corn crop with it. A drought set in at the time, and the consequence was less than half a crop on that field, whilst we had a fair yield from others not so murdered.

If we were to prepare our corn land properly by having on it a sufficient quantity of vegetable matter of some sort, either a grass sod, pea-vines, or weeds if nothing better, and turning them down following with a subsoil, there would be no necessity in the late culture of the crop for deep plowing and root cutting. Turn down such substances either in the fall or winter. In the spring run a heavy roller over the field, to level the surface—then if you have enough of manure spread it evenly, and harrow it in with a heavy iron tooth harrow—if not enough, reserve it to be put on the hill—and so leave it till you are ready to plant. In preparing to plant open the furrows lightly so as not to disturb the sod below—plant as may best suit you, either in check or drills, we prefer the latter. The after culture may be altogether superficial, either with a plow, sweep or cultivator. With the sweep or cultivator, the operation is rapid and easy to both man and horse. In this way a third more land may be cultivated than by the usual mode of plowing the crop three or four times over, with a gopher or shovel plow. We are not in the habit of preparing our land and cultivating the corn crop in this manner at the South. It is more common in the North, and all the great yields we have seen reported were from sod land thus prepared and cultivated:

From the American Agriculturist.

Mr. Editor:—By request, I submit to you, for insertion in the *Agriculturist*, some remarks and experiments, I have made, to prove that the plow is frequently used too late, and much to the injury of our Corn crops.

It is well known to rice planters, that when rice is in joint and forming its ear, every effort must be made to advance its growth, so that good ears may be formed. The same effort, to effect the same result, is necessary with corn, and all other grains. When the ear is about to be formed, the atmosphere has less influence on the plant than previously; and therefore more is required from the roots. If the soil is fertile, and well broken up with the plow previous to planting corn, innumerable small fibrous roots will run laterally, in search of nutriment, to the distance of six or eight feet. These laterals are very small, and easily separated from the stalk; if cut by the plow when the plant is young, no injury will be sustained, and perhaps a benefit: but they must not be cut or disturbed in any way, when far advanced towards maturity. Without their aid at that period, the perpendicular or tap-root, will not be sufficient to produce good and well filled ears. It is not unfrequently the case, that the plow is used when the Corn is in silk, and at that time these lateral roots are very numerous about the surface of the ground, and must necessarily be cut, much to the injury of the crop. I have made several experiments which prove conclusively, that the perpendicular or tap-roots, are not sufficient without the lateral roots, to produce good and well filled ears; and that, if the plow is used too late, a good crop cannot be expected. For my experiment, I selected eight well grown stalks, just before shooting out their tassel. I had the earth cut round two of those stalks about six inches from them, to the depth and width of the spade, and the earth removed, so that I could see that all of the roots were cut. The earth was permitted to remain in this situation until the Corn was matured. The stalks looked well, and the ears appeared to be well filled; but on examination, it was found, that there were but few scattered grains in them.

In the next experiment, a cut was made round two stalks, with a spade to its depth and width, at the same distance as above. This cut was permitted to close immediately, no earth having been removed. The result was, small ears, not well filled.

The third experiment was to cut the roots on two sides of the stalks, as they are usually cut in late ploughing. On the other sides the roots were not disturbed. The result—small ears, tolerably well filled.

In the remaining two stalks, no roots were cut or disturbed; the ears large and well filled.

The plow is not sufficiently used on our rice plantations, in preparing Corn land for planting, and is generally used too late after planting. If the soil has been well prepared, and in good tilth, the Cultivator, or hoe-harrow, may be used most advantageously after the second plowing. As soon as the plants can be plowed, the first furrow ought to be thrown from it, and the second to it; and if used again, the sooner the better, so that the Corn may be laid by, when it has attained a third of its growth, or very soon after.

I will here remark, that the planter who wishes to increase his Corn crop in quantity must select his corn in the field. Seed from those stalks that have produced from three to six ears, will, in like manner, produce again from three to six ears; if the soil is well manured and well cultivated; and seed from those stalks that have produced one ear, will again, in all probability, produce but one ear.

Respectfully,

John H. Tucker.

Original Communications.

The policy of Burning Woods.

Messrs. Editors: If you will allow me a brief space in the columns of your very excellent periodical, I will venture to offer you a few suggestions in reference to the policy of burning the woods, about which, much has been said, and but little written, and in respect to which the greatest diversity of opinion prevails throughout the whole country. Some contend that it is a means of injury and impoverishment to land, whilst others practice it especially with a view to its fertilizing tendencies. It is a subject interesting alone to ourselves, to the inhabitants of the American forests, where a large proportion of the great domain, still exists in a state of nature.

In assuming a position in this controversy, I take sides at once with the advocates of the measure, and maintain the ground that it is a matter of the first importance in at least two prominent points of view. First that its tendency is to improve the productive powers of the land, and secondly that it purifies the atmosphere and promotes the general health.

That it is a practice which has been pursued by the aborigines through all time there can be no question, and although not done with a view to an improvement of the soil in which they could have felt but little or no interest, yet the astonishing yield of all the Western lands, and often in situations not justified by their appearances, goes to show that it has had that tendency in an eminent degree.

A cursory glance at the relative condition of lands long subjected to annual firings, compared with those not thus treated, must at once impress every reflecting mind most favorably with the plan. In respect to the first, the interesting spectacle is every where presented of magnificent forests, and instead of condensed thickets, almost impenetrable to man or beast, a dense carpet of luxuriant grass, flowers, and annual plants, grace the landscape as far as the eye can

reach. Whilst in all situations into which fire has not been permitted to enter, shrubs, bushes, and every variety of perennial plants have reached a point of condensation, that excludes the sun from the surface of the earth, and shrouds the whole forest in the gloom of perpetual twilight.

From this outline of their relative conditions, the advantages of the policy are readily recognized, and consist mainly, as I conceive, in its tendency to introduce upon the land, a crop of annual instead of perennial plants. Of short lived instead of long lived productions. Of plants developed and perfected in a single season, and as readily decomposed and returned to the earth to be reapplied to new creations. Whereas shrubs, bushes, and perennials, which grow and flourish for ages on the same spot, continue as a matter of course, to tax the soil all the time for their support, in a ratio totally disproportionate to the very scanty return for its renovation, arising from the mere shedding of their leaves.

These appear to me to be self evident truths. No argument can be required to prove that if five hundred pounds of potash exist in the timbers taken from one acre of land, or is retained in their structures when not removed, the land must be minus that amount of this very valuable material, and disqualified in a corresponding ratio, for the production of those more transient plants which tend to enrich the surface soil. And hence it is that heavily timbered lands never produce according to expectation.

It is true that this deficiency may be greatly obviated by felling the whole forest, and suffering it to decompose on the land previous to cultivation, or by burning, provided the ash could be equally distributed. But even these measures, rendered objectionable, and I may add impracticable, by the time and trouble inseparable from the process, would not in my humble opinion fully compensate the evil in question. For although by this plan the mineral constituents of the soil would be returned to it, I hold nevertheless that it would be found deficient in the richness of its vegetable mould, deficient in those fertilizing materials which result from the decomposition of those innumerable and dissimilar specimens of the vegetable kingdom, which cover the earth where annual firing has been long practised. If a man were found planting and endeavoring to propagate shrubs and fruit trees as a means of renovating his worn out lands, he would be regarded as one groping in the dark, and far behind the intelligence of the age. And yet he who refuses to fire the woods, is acting on similar principles, and advancing towards similar results.

The rapid improvement of lands at fallow, especially in calcareous soils, and the still more highly compensating advantages which result from growing the grasses and annual plants to be given to the land, go to show that the best improvers by far, are those plants which occupy the ground for a short time only, and of these such as have the tap root, feed most upon the atmosphere, and require the greatest weight in a given time, are now universally preferred by scientific men,

This theory derives confirmation from the astonishing productiveness of the Western prairies, in which trees and perennial plants do not exist at all, and perhaps never did, but which are covered with a coat of grasses, flowers and annual plants, characterized by a degree of luxuriancy which indicates a soil that has nearly reached the maximum point of production, and which on analysis yields the largest amount of alkaline carbonates, and azotized substances, in a word all those mineral constituents which impart richness and duration to lands, with the greatest amount of vegetable mould; results which have been brought about in all probability by the annual firings of the natives for centuries.

The practice was continued in this country expressly for the benefit of the range, until from a condensation of its inhabitants, it became too hazardous to fire the woods, and too troublesome to guard against its ravages. And the result is, that those immense grass plains that rendered our country so inviting to the primative settlers, have been obliterated. Nor is this all, even the forest trees have ceased to be productive in nuts, and acorns, which at a former era constituted an efficient means of support for a large portion of their stock. The change in this respect, has been both signal and discouraging, and that it too has resulted from a condensation of the forests, is established beyond all question by innumerable proofs presented every year, in the abundance of acorns, et cetera, that are seen on trees that grow in enclosed yards, and pleasure grounds, where the undergrowth has been carefully removed. The whole family of the oak, the chesnut, the hickory, the persimmon and a host of others, are by nature eminently fructiferous. But in the present condition of our woodlands they are almost barren and valueless in this respect.

But the influence of burning, over the productive powers of the land, is in all probability a less important consideration than that which it exercises over the health of the country. Many considerations unite to sustain the conclusion, that the progressive increase of the number of diseases, and especially those rare and unmanageable forms so prevalent of late years, even in situations formerly regarded as perfectly healthy, have resulted from noxious exhalations generated in those impenetrable thickets, where a deep covering of leaves and rotten logs are undergoing decomposition in localities where the sun can never penetrate.

It is an admitted fact, that exposing a large amount of naked surface, especially in low and moist places, to the heat of a summer's sun, can scarcely fail to be productive of disease. But it is equally certain, that if admitted simply through a covering of the forest trees, the solar rays prove disinfecting, and essentially salutary. This fact has been clearly established, by the improved health of cities from the planting of shade trees in their streets, as well as in the lower countries where pine forests have succeeded immense cotton farms which the reduced price of that staple has long since thrown out of cultivation.

But our woodlands partake of neither of the above conditions. The undergrowth has become so tall, and condensed, as to exclude almost effectually the rays of the sun from the earth's surface. And instead of grasses and annual plants that absorb and luxuriate upon atmospheric impurities, filthy mushrooms and fungus parasites spring up in all directions, giving rise to deadly distempers among our cattle, and imparting stench and contamination to the surrounding atmosphere.

Common observation and the whole history of the past, are replete with proof of the above conclusions. Previous to the practices of civilization on this continent, febrile diseases were but little known to the native Indians, even in those regions where their successors have suffered most severely from them. And although other influences have had much to do in bringing about this result, yet there can be no doubt but that the neglect to purify the forests by burning, has contributed largely to the evil in question.—The Indian built his wigwam on the banks of lakes and rivers with safety, and roamed over the interminable forests, opposed by no obstacles but grass beneath his feet, and flowers on his pathway. And whether found in the savannahs of Florida, on the table lands of the interior, or on the slopes of the Aleghanies, he every where exhibited the most unequivocal proofs of good health and manly vigor.

When the approach of evil is gradual, its effects are less startling and repulsive. The insalubrity of our climate from this cause, can only have been proportionate to the progress which has marked the change, from grass plains to shrubs, bushes, and half grown trees. The mischief is the more occult and insidious by reason of the general diffusion of the sources from whence it proceeds, being co-extensive with the length and breadth of the land. Where larger masses of decaying matter have chanced to accumulate on a given spot, the malarious exhalations have been more concentrated, and their effects have become at once apparent and appalling. A considerable quantity of damaged coffee or of putrid fish, thrown upon the wharf, has often originated pestilences in cities, scarcely less destructive than the plagues of Egypt. But although such local intensity of morbid action cannot be expected to result from the cause under consideration, yet taken in the aggregate the evil is in all probability one of very material importance to the welfare of the whole country.

But enough at present. "Brevity is the spice of wit," and the pith of argument. It is my intention by your leave, to mount my Pegasus again shortly, and if by a few touches of the spur, I can arouse him from that lethargy into which he is apt to be lulled at the approach of warm weather, I will read you a short chapter on the adaptation of our country to meadow, and the grasses, and their paramount importance to the interest of the cotton planter. Holding myself pledged in the mean time, to exhibit to you, or to any gentleman who may favor me with a call from this time till the 20th of June, a field of Red Clover on low grounds, and also a plat of Timothy not surpassed, in all probability, on the best grass lands of the Western States. PRY.

Pendleton, S. C., May 20, 1850.

The Wants of Farmers---Agricultural Education.

"Fashions that are now called new
Have been worn by more than you,
Olden times have used the same
Though these new ones get the name."

Verily we are sometimes almost forced to the conclusion that there is nothing new under the sun. That with all our boasted scientific discoveries, mechanical contrivances and labor saving implements, if the truth could be got at, we are not after all, so much in advance of old times. Every day we see some new scientific discovery, some grand fact just worked out by careful experiment, or some wonderful labor saving process invented, all heralded as indications of the progress of the age. If they could be stripped of the tinsel which surrounds them, they would be found to be little else, than old theories long exploded, revamped and prepared for a modern public.

There is no class of society subject to as many impostures of this kind, as the Agricultural, and there is nobody to blame for it but ourselves. If we possessed a tithe of that intelligence, scientific or practical, which we should, we would not be so easily humbugged, by every fellow who sets himself up to be par excellence our guide. Instead of setting about some reform earnestly, we content ourselves with abusing humbugs and humbuggers, and remaining the humbuggees. One might really conclude that we were believers in the old adage, that

"Surely the pleasure is as great
In being cheated as to cheat."

During comparatively a recent period —the Morus Multicaulus, the California Wheat, the Baden Corn, the Guinea Corn, the Jerusalem Artichoke, the Okra, Multibolled, Bunch, Yucatan, Mexican, Liles, Mastodon and a hundred others, have been the pets of the public for a time, only to produce disappointment.

Now it seems to us, that a very little knowledge of our business, might save us from many such impostures. If the Agricultural press would only be true to itself, and farmers and planters, who are responsible, experiment and publish the results; and induce their neighbors to read them, a very different state of things might soon be very easily brought about. Instead of this, it often happens that the best planters amongst us, those best qualified to teach, are content to hide their light under a bushel, and to think they are doing good service, by denouncing all who "write for the papers as book farmers and grand humbugs."

Now these are the very men who deserve to be tied up and talked to. The man who through ignorance, directs the traveller the wrong road, is by no means as culpable, as he who knowing all the forks, cross-roads and by-paths, refuses to give him a word of advice. We are out of all patience with these wiseacres, who know how, and when to do everything, and wont tell their neighbors. Ours is a most extensive brotherhood, and we should help one another, and teach one another.

It is our mission to feed the hungry and clothe the naked, to beautify and enrich our mother earth, from whish so many blessings flow—not to disfigure and impoverish her, to waste or to conceal her treasures.

There is no life which has so many charms thrown around it, as the Agriculturalist's. Nature, under your fostering hand, yields you her choicest fruits, and her sweetest flowers. By the wayside of every one of you, are objects to elicit your charity, your love, your admiration, and to lead you from "Nature up to Nature's God." From the germination of the smallest seed, to the ripening of the richest fruit, and the blooming of the most gorgeous flower, there is not a moment but is fraught with some hidden truth, which would be both beautiful and useful to be understood.

How many of us attach to these things any importance? Thrust the seed into the ground, and if it comes, and grows,—all's well. In that line is written the history of by far the greater number of us. And this state of things must exist, until our system of education is reformed.

Of all humbugs, from the common school to the college, modern education is becoming the most egregious. Yankee wits have been strained to their utmost tension, to simplify knowledge, to prepare books containing the shadow in lieu of the substance, and teachers who know how to use them. In olden times there was thought to be some virtue in a child's laboring to discover the unseen truth—but now-a-days it must be so plain, that he who runs may read. He must gulp down knowledge by the quantity—run the gauntlet of the grammar schools in a few years, and graduate at a College about the time he should enter one.

Teachers now-a-days with few exceptions are but crammers, who think it is only necessary to cram the mind of the pupil with names and semblances. In a few months one is made to run through a whole course of Grammar, Philosophy, Chemistry, Botany, Mathematics. Every book has its key or translation, and all modern learning, we had almost said, was a training of memory. And we sometimes prate about Wilmot provisoes, nonintervention, and independence. Who makes our Primers, our Spelling books our Readers, our Geographies, our literature?—Where do we go for our Agricultural knowledge or Agricultural Implements, tubs, buckets, brooms, hoes, hammers, harrows, rakes, axes, plows, spades, shovels, yea, almost every thing? My good friends we must reform this altogether. We must set about it in earnest, and it is the planting and farming interest which must do it—trust not to politicians and political nostrums, compromises and conventions for safety. Go yourselves to work earnestly—educate your children properly and at home. Teach them something useful. Study their character, and adapt their profession to the bent of their genius. Think not it will disgrace one to make a farmer, or mechanic of him. Look to the substance. Can any profession offer more mental emjoyment than the farmer's when Chemistry, Geology, Mineralogy, Botany, and Physiology are employed by him to develop nature's great storehouse of inexhaustible knowledge and beauty.

There must be mental as well as manual labor employed to make one great in every thing. If we had one Agricultural for every ten political papers in the country and could get the people to read them as earnestly, and labor in their cause as faithfully, we would feel as if we had the screw of Archimides. BROOMSEDGE.

Turning Land.

MESSRS. EDITORS: I have received two numbers of the Farmer and Planter and, enclosed, send you one dollar, the subscription money for the first volume. I approve of your plan of turning over land. My experience in one instance is as follows: I purchased a tract of land, known very well to you, of the Rev. JAMES TARRANT, so poor that he was tending two or three acres only in a place, and making stalks about as large as your thumb. I let it lay out two years. The first year the weeds grew about one or two feet high: the second year from five to eight feet.—I then put an overseer there. He wanted to know if the weeds were to be burnt. I told him no, I would send him a plow that would turn them under. He replied, "no plow *could* turn them under." I had a plow made according to my own views, and stocked it myself. It carried a furrow about 15 inches wide, 8 deep, and hid every thing. I planted in corn, putting one stalk in a hill, four feet distant, and have never

seen such corn stalks, though I have seen corn growing on the Rappahannock and James river bottoms. The stalks did not grow very high, but the blades were from five to six inches wide and the ears large. I have tended the same field for twenty-five years without resting it, but have alternated it with rye, wheat, and cotton. The soil was deep, and the season being very wet the weeds rotted. Respectfully yours. B.

Greenville District, S. C., May 18, 1850.

Remarks—We have a distinct recollection of the purchase and subsequent management of the farm by our friend B. To him and his management are we indebted for the use of our *first* subsoil plow, which we introduced on removing to the neighborhood of Pendleton. Although he does not mention it in his letter, we recollect that he used the subsoil, or what he termed the "broad point coulter," on that very farm which he so rapidly brought into profitable culture from the "patched" state in which he found it. His plow was a modification of the old fashioned "New-ground Coulter," differing in this: instead of coming to a point as the latter did, it gradually widened to some three or four inches with a square cutting edge in front. We considered it a heavy running plow, and to lessen the draft, had one made by reversing and giving it the broad *dart* shape with the point forward. Dr. Broyles' subsoil plow is a modification of this again, formed by cutting off the left wing and welding the right *on* instead of *under* the foot of the coulter, as was the case with our own.

We recollect, too, seeing the good effects resulting from the use of our friend's turning plow, helped, as we suspected, by the coulter—that we concluded to try a similar operation on our own field on the Old Trail Road, (many of our readers will recollect the place,) and without reflecting on the entirely different nature of the land—a thin, white sandy soil, if any soil it had, with a yellow, open, porous subsoil—we went to work and made a turning plow with two coulters in the rear as subsoilers—all in the same stock.—With our oldest love, "Arator," in our hand, we threw up our land into beautiful *five feet* ridges—the yellow clay from some eight inches below all on top, and the soil so *low down* that we never found it again whilst we owned the field. We had not then read any agricultural papers, from which we might have learned not to treat such land as our field was as we may with impunity, and even beneficially, such as our friend B. operated on, originally a deep, dark, loamy soil, with a stiff red subsoil, and in its virgin state equal to any up-land in the State. We shortly after that time commenced taking our old friend Skinner's American Farmer, to the great alarm of some of our best friends lest we should be ruined by "Book Farming."—Eds.

We like the following extract of a letter from a friend of Agriculture and wish the spirit manifested in it were more general:

Washington, (Wilkes Co.) Ga. }
22nd May, 1850. }

Messrs. Editors: I owe you an apology for neglecting so long, to remit to you the subscription price of your valuable periodical—but as it is never too late to do good, I herewith enclose you one dollar for the purpose. * * * *

As soon as I received your prospectus for the "Farmer and Planter," I determined to become a subscriber, believing that we need more agricultural papers at the South than we yet have. No man whether a planter or otherwise, should be without such a paper.

Would it not be well for every planter who has an overseer, to furnish him with such a work, and keep one for himself also? The very low rates at which these papers are furnished, would enable the poorest of our planters to furnish himself and overseer with a copy each. I regularly send one of mine to the overseer as his own property, and believe I am paid ten fold. The recipes alone in either are worth treble the subscription price. I wish you abundant success in your laudable undertaking, and hope that you will be extensively patronized.

Respectfully yours,

A. S. W.

Profits of Dogs.

Many of our friends and correspondents have frequently given us the profits of poultry, milch cows, sheep, oxen or mule labor over horses, &c.; but the man is yet wanting, who has communicated essay, chapter, or paragraph on the profit of dogs. This is passing strange, as everybody keeps his dog, and many keep their packs. The whole country is overrun with them. Surely, then, somebody ought to know their value, and be able to report an account current of their profits. Let us hear from some of our most observing correspondents, and especially such of them as live among the canine marauders of the sheep fold. We imagine the account will stand something thus:—

Towzer, in account current with my farm Jan. 1st 1249, to Jan. 1st, 1850.

Dr.

To killing my best imported South-down ram, Billy,	$50.00
Do 3 choice wethers $4.50 each	13.50
Do 17 breeding ewes $3.25 "	55.25
Cost of law suit with neighbor Strict for sheep killing	27.00
Damages paid him on judgment rendered	29.17
Attendance of myself and five laborers, as witnesses, 3 days each, at 8*s*. per day	18.00
Worrying farmer Short's horse, and paid him for consequent lameness	12.00
Original cost	10.05
52 weeks' board, at 4*s*	26.09
	$240.92

Cr.

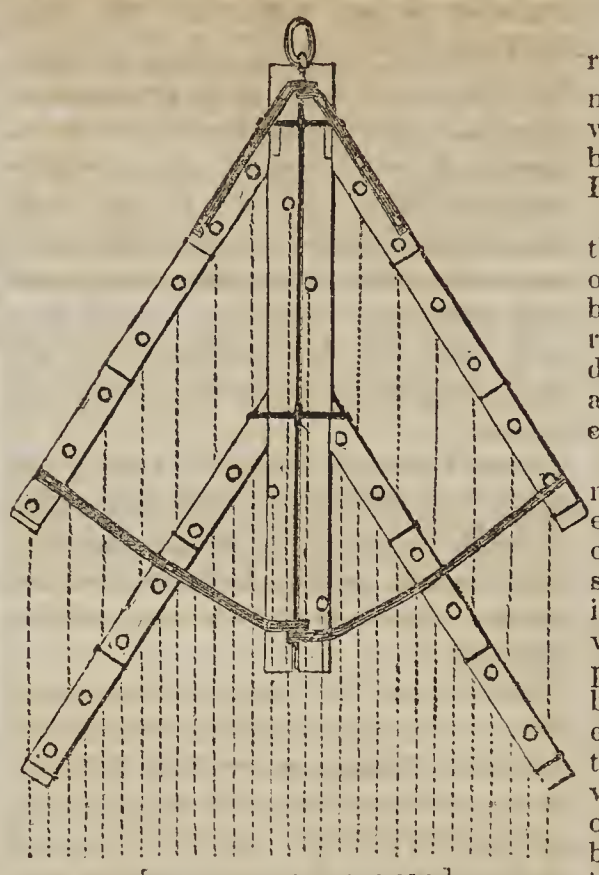
By driving pigs out of the corn at sundry times, through a bad fence, which my hands had neglected to repair	$2.00
Killing one polecat $1.50, 3 squirrels, 75cts	2.25
Bringing in newspapers from gate 18 times	0.03
Comfort and satisfaction in general from owning Towzer one year	273.19
	$277.47

Balance in favor of Towzer, $36.55

Thus by giving a pretty round credit for the *general satisfaction* derived from Towzer, we show an actual profit during the current year, of 36.55 or 305 per cent. on the original capital invested, which is a most liberal return for farm stock, and will probably induce many enterprising, scheming young men to follow in similar investments.—*American Agriculturist.*

Farmers, teach one another.

GEDDES' HARROW.



[The Geddes Harrow.]

We gave in our last number a cut representing the "Scotch Harrow;" the annexed represents the "Geddes Harrow," which is generally considered to be the best. It is thus described by the Genesee Farmer:

"The Geddes Harrow, so called from the inventor, George Geddes of Tyler, Onondaga County, New York, is considered by those who have used both, to be superior to the square harrow, inasmuch as it draws from a centre, without an uneasy and struggling motion and is of course easier for the team.

The accompanying cut is so simple that it needs no description. Being hung on hinges, it is easily lifted when in motion, to let off collections of weeds, roots and other obstructions. It can be doubled back, and is very convenient form to be carried in a wagon about the farm. Some have teeth put in as in common harrows, simply by being driven in from the upper side; others have the teeth so made as to be let through the timber from the under side, with a washer below, and a nut and screw on the top; this avoids the loosing of teeth, by preventing them from dropping out, as in common harrows.

The work performed by this harrow is better, with one operation, than can be done with a common A harrow by going twice over the ground."

Horticultural Department.

Summer Manngement of Trees.

"As the twig is bent the tree's inclined," is a very old and true maxim, and one that should be remembered by all cultivators of trees. We believe the ordinary mode of proceeding is, to allow trees to grow as nature and circumstances may direct during summer, and in winter or spring correct by pruning, &c., any defects or deformities that may have arisen. This is not what we call *good* culture, and this is what most people are, or ought to be, aiming at now-a-days.

Just about this time, (the 1st of June,) young trees will be pushing vigorously, and as a general thing, will have made growth enough to enable the cultivator, (their tutor,) to perceive what form they are about to assume—whether the young branches are proceeding from the right place, and in the right direction, to reach the desired form. If they are not, they should be set right at once, by rubbing off shoots that are not wanted, pinching the top off to retard such as are pushing too vigorously, to the detriment of others. An equality of growth among the shoots intended for the main branches, or frame work of the tree, should be maintained; and where a surplus of small branches in the interior are appearing, giving the tree a bushy or twiggy look, a sufficient number of them should be removed to allow the others to acquire a full and vigorous growth.

A standard tree, in an orchard, should have 5 or 6 feet of a clean, straight stem. Straightness can be perfectly obtained by keeping the young tree tied to a stake, until it has acquired strength and firmness enough to support itself in a straight position. All shoots proceeding from the stem, below the first tier of branches forming the head, should be rubbed off with the hand while tender, as, if allowed to grow, they retard the development of the head, and impair the form and habit of the tree. In forming a young standard, a vigorous upright shoot should be secured for a *leader*, and three or four others to form branches or boughs. A laxness or slenderness of habit can be corrected by pinching off the ends of the branches producing a more horizontal growth.

Dwarf trees require more care than standards, as their forms are more artificial. These should branch near the ground, say 8 inches to a foot. If the young tree, when planted, had not branched so low, it ought to have been cut down to within three or four buds of the point where the first branches are desired.—Those who have planted young trees intended for dwarfs or pyramids, no doubt, attended to this matter at the time of planting. And now, they must see that a regularity and uniformity of growth is going on—that the leader is proceeding rapidly upwards, and the side branches nicely balanced—one not robbing and outgrowing, or overgrowing the others—this is the point. We have just spoken of the methods of obtaining this equilibrium of growth.

In a late number of the Farmer we spoke of the form most suitable for the various fruit trees, under certain circumstances, and the suggestions we briefly offer now are simply intended to aid the unpracticed hand in producing these forms. In all cases we advise caution—too little pruning is not so bad as too much—too many shoots or branches far better than too few—It will be well for every cultivator to acquire a knowledge of vegetable physiology—the *theory* of horticulture, as well as a skilful practical use of the knife. When he has done this, and studied well the peculiar habits of growth and bearing of the various trees, then he will have them entirely under his control, and will be able to effect safely, and easily, any desired result. We have all much to learn on these points, and the orchard and garden is a good school.

Culture of the Plum.—"As old digger" in the Horticulturist says:—"Plum trees like a moist soil. I have found that covering the ground four inches deep with old spent tan bark, is a good way of preserving the moisture, and keeping the trees in health. I scatter fresh lime over the surface of tan every year, as soon as the green fruit begins to fall. This kills every curculio that attempts to enter the ground. The tan prevents the weeds from growing, keeps the roots cool, and insures me a good crop of plums. I spread it as far as the roots extend, and it wants renewing or adding to, once in three or four years.

Agriculture.—Nothing can more fully prove the ingratitude of mankind than the little regard which the disposers of honorary rewards have paid to agriculture; which is treated as a subject so remote from common life by all those who do not immediately hold the plow, or give fodder to the ox, that there is room to question, whether a great part of mankind has yet been informed that life is sustained by the fruits of the earth.

[*Johnson.*

The honor of an honorable man, so far as dollars and cents are concerned, dies when he dies; therefore honorable conditions should be in writing.

The Southern States.

The Southern States with all their intelligence, and with all their enterprise, are but about beginning to learn the full extent and character of the resources at their command. The fact of their being eminently fitted to produce those raw materials which enter into the composition of our most extensive Northern manufactures, and compose no small part of ocean trade, seems to have acted like a narcotic in producing the impression that they were doing all they were bound to do, or that they could do. This torpor has at last gone off; and Southern planters see the possibility, nay the desirableness of taking advantage of the vast water power of their respective States, to produce the manufactured article, and thus save, as in cotton, for instance, the cost of transportation to and fro. To act on this discovery is true Southern policy. We anticipate the effect in a more independent, a more dignified feeling on the part of the South, which whilst taking from it its present slavish feeling of dependance, will make it less regard the North in an antagonistic light, and thus remove a good part of the cause of that irritation already rapidly subsiding.

[*City Item.*

Useful Receipts.

To Make White Wash.

As this is the time for cleaning up door yards and white washing buildings and fences, we give a receipt for whitewash, which is said (in the Horticulturist) to be one of the best and most durable character.

Take a barrel and slack one bushel of freshly burned lime in it, by covering the lime with boiling water. After it is slacked, add cold water enough to bring it to the consistency of good white wash. Then dissolve in water, and add one pound of white vitrol (sulphate of zinc). To give this wash a cream color, add one-half a pound of yellow ochre in powder. To give a fawn color, add a pound of yellow ochre, and one-fourth of a pound of Indian red. To make the wash a handsome grey stone color, add half a pound of French blue, and one-fourth of a pound of Indian red; a drab will be made by adding one half pound of sienna, and one-fourth pound of Venetian red.

Some people put salt into their lime, but we never could see any reason for doing this, as salt absorbs moisture and is therefore more injurious than beneficial. The sulphate of zinc is an excellent dryer—it being about the best known; the use of *it*, therefore, is important.

[*Scientific American.*

Remedy for Deafness.

If glycerine is introduced into the ear by a small piece of cotton, it will in all likelihood cure any case of deafness, which is caused by the gum in the ear becoming hard; for it posseses the peculiar property of attracting moisture from the atmosphere.

A Deep Burn or Scald.—Apply the inner rind of elder well mixed with fresh butter. When this is bound on with a rag, plunge the part into cold water.—This will suspend the pain till the medicine heals. Or mix lime water and sweet oil to the thickness of cream, and apply it with a feather several times a day. This is a most effectual application.

Rice Jelly.—Take of rice three spoonfuls; boil in water, add ten sweet and five bitter almonds, and sugar to your liking; make into an emulsion, and flavor with cinnamon or orange-flower water to your taste.

Arrow Root Jelly.—Take of arrow-root one ounce; rub to a smooth paste with a spoonful or two of cold water; then gradually add of boiling water half a pint, stirring all the while. It may be thinned with more water, if desired, and flavored with milk, wine, sugar, and spices, according to the palate of the patient.

To Cure the Sore Necks of Oxen.—A neighbor of mine had a pair of working oxen whose necks became very sore.—He covered that part of the yoke resting upon the neck, with sheet lead. They got well almost immediately though constantly kept at work. I suppose the lead being a good conductor of heat, drew off the inflamation, and thus enabled the sores to heal.

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TO POSTMASTERS.

There are thousands to whom the subject needs only to be suggested, who would subscribe to a paper devoted to Southern Agriculture at the low price of one dollar a year. Your public position as well as other causes make you, persons, frequently conferred with upon the merits of newspapers and public journals. Situated as you are at central points in every part of the country, you have opportunities to exercise very great influence for the general good. The Post office department at Washington, looking to public convenience, has by its decisions encouraged your kind offices to the Press. We therefore, respectfully, solicit that you act as agents in your neighborhood to procure subscribers for the "Farmer and Planter." We would willingly allow commissions, for money collected from subscribers obtained in this way, if we had any idea they would be acceptable.

SEABORN & GILMAN.